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GUTHRIE RANKIN, M.D., F.R.C.P.,

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THE history of every life that fulfils the average duration is one of gradual ascent from the time of birth till its fastigium is reached, and from that point one of decline until it finds its termination in death. What may have occurred in the process of events before the contact of spermatozoon with ovum started each being on an earthly career we know not, and we are equally without definite assurance of the incidents which lie in the future after the bodily machine, having reached its ultimate goal of functional activity, becomes scrapped. There is ample evidence to prove that hereditary tendencies pass far beyond the history of generations, while there is an abiding faith in the hearts of most men that the experience and discipline of life which build up the character of each individual cannot possibly terminate with the end of material existence, but must surely be destined for higher development under new conditions elsewhere. Mortal life would be unsatisfactory if, as the outcome of its activities, there were not hope of an immortal survival. The scope of the human senses is bounded by terrestrial limitations, but science is continually enlarging man's power of conquest over Nature's secrets, and progressively adding strength to the conviction that beyond the field of material endeavour there is an undiscovered country where the educative work begun here must be continued and amplified.

The climacteric period, which may be regarded as coinciding with life's full maturity, is a well recognized event in women, but it is not so generally appreciated that men go through a similar readjustment of tissues, though after a less dramatic method, and probably at a somewhat later age. The cessation of menstruation is an event in the woman's life which results from the functional death of the ovaries. It is usually accompanied by disturbance of the vasomotor and nervous systems, causing unstable health and many uncomfortable experiences. It is also a time of special liability to the development of disease, especially of such as may be regarded as the expression of hereditary tendencies that have down to this period of transition remained dormant. In men, from seven to ten years later, a similar liability to the awakening of latent proclivities exists, and there would seem to be, at that period, as in women, an upset of tissue equilibrium conducive to the establishment of pathological conditions. The immediate counterpart in man of the ovarian changes in women is probably to be found in the structural alterations which then become established in the prostate gland. In both sexes a diminution of vital margin, with lessened activity of secretory and excretory vigour, is a clinical declaration that life has crossed the summit and has entered upon the downhill period of its duration.

Acute illness occurring within the limits of this critical time is attended with more than average risk, the protective powers of the body being just then apparently less able to resist germ or toxaemic invasion. But it is to the chronic ailments met with at this period of life that most interest attaches. Though they comprise a large variety of disorders, there are certain of them that stand out conspicuously because of the frequency of their occurrence, and the claim they make for early recognition and active treatment if the remaining years of life are to continue fruitful and free from the handicap of broken health.

It is not surprising that growths of malignant type so often date their inception from this period of unstable tissue life. Their management is largely, if not entirely, surgical, and, except from the point of view of diagnosis, does not directly interest the physician. Among the many ailments that may assert themselves at the climacteric three are here selected as commonly met with in men and three as more usually encountered in women. Three examples are chosen, not because they comprise more than a fraction of the disease processes that are encountered at this period, but because, on account of their frequency, they fall within the experience of most men in active practice. They are, moreover, related to one another in such a manner as to give them a special etiological and developmental interest. Nomenclature tempts us to regard every ailment labelled with a name as an entity. No one of them is really self-contained, but overlaps in every direction on the domain of the others.

Arterio-sclerosis, interstitial nephritis, and diabetes form a small group of ailments which often declare themselves in men between 55 and 63. Arterio-sclerosis may have set its mark upon the vessels long before this age is reached, especially when arduous work, the free use of alcohol, or syphilis has entered into the history. It is, however, now that in cases with no such antecedents the wear and tear of life begins to set its mark on the vessel walls, and is responsible for such a record as the following: A man of full habit of body, often with gouty antecedents, who has been self-indulgent in regard to food and drink, and whose life has always been busy, with very little holiday, comes complaining of morning headaches, slight shortness of breath on exertion, disturbed sleep, unwonted irritability, and mental depression, with a sense of fullness after meals, palpitation, occasional feelings of tightness in the chest, and one or two recent attacks of giddiness which have given him some alarm, and are the immediate cause of his seeking advice. He is usually florid, above the average weight, and perceptibly, though it may be only slightly, hampered in his respiration. His arteries are tortuous and hard, his tension is increased, his heart is moderately enlarged, and the second aortic sound is accentuated. His liver is often full, and is slightly tender to touch below the costal arch. His urine is loaded with urates, and may also contain a haze of albumin. Most frequently his knee-jerks are excessive, and there is other evidence that his nervous system is unstable. His mental energy is diminished. Such is the clinical outline, and here is a typical case in illustration:

CASE I.

A. R., aged 56, a short, florid, active man who has worked hard all his life as a stockbroker. There was a doubtful history of syphilis thirty years ago, but the Wassermann reaction has always been, and now is, negative. For several years he went to Kissingen for "the cure." For thirteen months his sleep had been very broken, and he had been restless and depressed. He complained of palpitation, a sense of fullness in the head, giddiness, occasional feeling of constriction in the chest, and frequency of micturition at night. On examination his heart was increased in size, the apex beat being at the nipple line in the sixth space and the right margin at the right sternal edge. The first sound was muffled and the second accentuated at the aortic cartilage. The arteries were tortuous and hard and the pulse numbered 84, with a tension of 200 mm. The urine had a density of 1020, contained a minute trace of albumin, some crystals of uric acid and oxalate of lime, and a few hyaline casts. There was some diminution in the hepatic dullness. He was under observation from time to time for about three years. During that period his symptoms varied according to the care he took in regard to diet and work. Rest and a restricted regimen always temporarily diminished the tension and improved his general condition. He had much anxiety in his business and many worries at home. He developed as time went on angina pectoris, of which he had several sharp attacks. Eventually he caught pneumonia, and after his recovery was, when last heard of some months later, decidedly better, his life being passed under conditions of much diminished strain.

When interstitial nephritis is the primary result of degenerative changes the patient presents other features. A man of middle age has recently suffered from headaches, backache, loss of weight, failure of appetite, dream-disturbed sleep, drowsiness during the day, indigestion and mental depression. Micturition has been more frequent than usual, and recently he has had occasional mild attacks of asthma, from which he never previously suffered. On examination he looks toxic and "fishy" about the eyes, sad in expression, and old for his age. His arteries may be thickened, but this is not always an obvious sign in the early stages. There is some increase of arterial tension, and there may already be a moderate enlargement of the left ventricle of the heart. The cardiac action is regular but the resting space between the second and first sounds is diminished, the second sound is accentuated, and moderate effort increases the rhythm abnormally, and may even produce a temporary soft short systolic whiff at the apex, due to relative insufficiency. As a common accompaniment of the early stages of interstitial nephritis there is evidence of commencing emphysematous changes in the lungs; the liver may still be of normal size, but an early cirrhotic process may have produced some alteration in the direction of increase or diminution of

percussion dullness. The urine is abundant, clear, of low specific gravity, and precipitates a mild haze of albumin. Hyaline and granular casts are found microscopically, and the urea content is diminished. The nervous system is unstable with many evidences of neurasthenia, and eventually the patient is irritable, suspicious, querulous, difficult to please, and altogether changed from his former self. This clinical sketch finds illustration in the following case:

CASE II.

I. C., aged 53. Never seriously ill. Six weeks before first seen he went to his doctor because of sudden faintness coming on after the exertion of several sets of tennis. He had been previously very much worried. The doctor found albumin in the water, and told him his heart was not right. On examination his arteries were tortuous and hard; the apex beat of his heart was forcible and diffused at the sixth space in the nipple line, and the second sound was accentuated. The arterial tension measured 180 mm. The urine had a density of 1008, and contained a thick haze of albumin; the urea content was only 220 gr., a few leucocytes and one or two hyaline casts were found on microscopic examination, and the average daily amount secreted was 70 oz. Three months later the apex beat of the heart was outside the nipple line, and the rhythm was slightly irregular after exertion. The second sound was still accentuated at the base, and there was a short systolic murmur at the aortic cartilage. The arterial tension now reached 220 mm. and the urea was diminished to 180 grains. After another interval of two months there was a marked increase of albumin, and retinal haemorrhages were observed. He complained now of vertigo, asthma, constant headaches, impaired digestion, and occasional sickness. He eventually died of uraemia.

When the presence of sugar in the urine declares the existence of diabetes, the story is somewhat different from either of the foregoing. Though at first the sugar may be intermittent, and therefore be more correctly described as a glycosuria, the fact of its being there even occasionally points to a disturbance of pancreatic function, which is the earliest stage in the establishment of tissue change that tends to become permanent, and must then be classified as a true diabetes, even though at this age it seldom acquires the acute phase met with in younger people. The man in middle life who has developed this fault in his metabolism comes to the doctor because of a progressive emaciation which has excited the comment of his friends and has eventually produced some concern in his own mind. He does not feel ill, but finds that he is easily tired and unfit for the amount of exertion previously habitual to him. He is somewhat thirstier than he used to be, and though he takes his food well and digests it perfectly, it fails to keep his nutrition up to its former level. His interest in the daily work of his life has lessened of late, and he has not the same grip of things for which he used to be conspicuous. The amount of urine secreted in each twenty-four hours is more or less abundant, clear, and of a persistently pale colour. He complains of muscular pains, which he attributes to rheumatism, and is from time to time waked from sleep by cramp in one or both calves. When called in the morning he welcomes his early cup of tea because of an unwonted dryness and stickiness of his mouth. On examination there is nothing in his appearance to attract special notice. He is often a man of good complexion, and, in an uncomplicated case, his organs are apparently normal. He has lost any superfluous fat he may have had, but his muscles are firm and still vigorous. The pulse is soft, small, somewhat more rapid than the average, and easily excited to greater frequency by moderate exertion. The heart is of normal diameters, but sometimes presents a muffling of the first sound. In many such cases there is a slight increase of hepatic dullness, and pressure over the epigastrium may cause uneasiness, if not actual pain. Balanitis is often a source of annoyance. The urine is pale, and of high specific gravity. Apart from a frequent excess of phosphates, the only abnormal constituent is sugar, and this varies in amount according to the severity of the disorder and the dietetic habits of the patient. In a case that has gone beyond the earlier stage there may be albumin and diacetic acid in addition. When the urine passed at the time of the interview is examined it may be of high density yet not reduce Fehling's solution, and, but for some such history as that of having been refused for life insurance some months previously because sugar had been discovered, the true nature of his ailment might be missed. A specimen taken from the whole of a twenty-four hours' secretion will often clear up any doubt, and this should never be omitted.

CASE III.

G. D., aged 58. A busy, gouty, active man, complained of disturbed digestion, palpitation, tiredness, and frequency of micturition. He lived freely, and drank a generous amount of wine every day. On examination his heart was apparently of normal size, but the first sound was muffled and short and the second sound moderately accentuated. The arterial tension measured 140 mm.; the lungs were emphysematous; the liver was enlarged to one inch below the costal arch, and was tender to touch; the reflexes were exaggerated; the urine had a density of 1032, and contained 11 gr. of sugar in each ounce. Eight months later the sugar had increased to 24 grains per ounce, but this amount diminished under diet restrictions and rest. The following year he had an attack of haematuria, due to a renal calculus, which was removed. Subsequently the sugar increased again to 16 grains, accompanied by a haze of albumin. He also developed about this time a soft diastolic aortic murmur. After another year the albumin continued as before, and the sugar varied from 5 to 20 grains to the ounce, according to the care he took as to his habits of life. After an unusually heavy day's work, and a speech delivered at a public dinner, he complained of fatigue and drowsiness, went home, and died comatose the next morning.

Here we have three instances of disease which tends to declare itself with special frequency at the time of the climacteric in men. What inter-relationship can be found between them, and what are the means best calculated to stay their progress? In the first place, each may be regarded as evidence of a breach of tissue integrity and a warning of coming disaster. A process of sclerosis is becoming established, and the tissue selected for its earliest manifestations is determined by the habits of the individual and the family tendencies he has inherited. The common causative antecedent in all three cases is strain continued almost unremittingly over upwards of forty years. Domestic trials, financial worries, emotional storms and mental anxieties enter into the lives of those who are strenuous and ambitious to achieve worldly success, and each adds its quota to the routine of daily duties and events that constitute the groundwork of a man's career. The stress of carrying on, whatever the effect on individual organs, falls primarily upon the nervous centres, which, becoming devitalized, reveal their feebleness in symptoms of neurasthenia. More often than not these ailments overlap one another, and instead of meeting with one of them in "pure culture" we more often get a blend of one with another, or of all three together. Arterio-sclerosis becomes associated with interstitial nephritis, which, in its turn, may be accompanied by glycosuria, and finally all three may occur together and give rise to a mixed clinical symptomatology. The following case is an example of this grouping:

CASE IV.

W. H. B., aged 53. A florid man who was once stout, but had recently become much thinner. Engaged in financial concerns which caused him constant anxiety. He was a large eater, and specially indulged in meat and sweets. He smoked and drank excessively. His father suffered from gout, and died from exhaustion produced by a large carbuncle. When first seen in 1913 he complained of broken sleep, enfeebled digestion, frequency of micturition, headaches, and giddiness. He gave a record of occasional traces of sugar having been found in the urine, but when examined at this interview it contained neither sugar nor albumin. His arteries were thickened, but his blood tension did not exceed 140 mm. His liver dullness was diminished, and he had pharyngeal catarrh which troubled him in the morning. In 1914 the urine contained a haze of albumin, and an abundance of phosphates, but still no sugar. The frequency of micturition had increased, and his tension now registered 160 mm. The sclerosis in his arteries was advancing, and he now complained of giddiness, fullness in the head, and occasional attacks of epistaxis. Early in 1915 4 grains to the ounce of sugar were found in the urine, which also contained hyaline casts and leucocytes. The urea remained in normal amount. In 1916 the sugar had increased to 12 grains to the ounce, and the albumin had more than doubled in amount. In October, 1917, after a period of greater worry than usual, and more indulgence in food and alcohol, he got an attack of delirium tremens which was accompanied by a mild degree of hepatitis and jaundice, much albumin in the urine, and sugar up to 20 grains. He also had two attacks of cardiac distress, which were anginal in type, and alarmed him greatly. He gradually recovered from this illness, and since then he has taken no alcohol, no sugar, and no meat. In other respects he has led a quiet and uneventful life, and has lessened his business responsibilities very considerably. When last seen some months ago he was fairly well. He had lost a stone in weight, his urine contained a trace only of albumin and sugar, but still had hyaline and granular casts; his arterial tension was 140 mm., and his heart was regular and without murmur. His temporal vessels were markedly prominent and tortuous.

From this triad of diseases ulterior consequences are apt to follow if the degenerative process continues progressive.

The changes in the arteries are liable to invade the aortic arch and the coronary vessels, with a consequent risk of aortic valve disease or angina pectoris. They may also become established in the myocardium, with resulting auricular fibrillation, dropped ventricular beats, or the Stokes-Adams syndrome. They may search out the tender cerebral vessels, and give rise to apoplexy or softening of the brain. Interstitial nephritis may be either the consequence or the cause of arterio-sclerosis, and may lead to tubular changes in the kidneys, and ultimate uraemia. The sclerotic processes in the kidneys may pave the way for similar changes in the liver and pancreas. This close association makes the onset of the one almost certainly the prelude to the others, should it pass beyond the earliest stages of development. Each is the sign-manual of commencing senility, and if uncontrolled will surely lead on to a premature old age.

The indications as to preventive treatment are simple and obvious if the theory as to causation is correctly stated. The strain of life must be ruthlessly curtailed whenever the first danger signals declare themselves. Work must be lessened, and leisure cultivated; the diet must be adjusted to the necessities of the condition and the capacities of the damaged organs. To take life easily means its prolongation, whereas to continue along the path of unbridled effort connotes a not far distant invalidism and an early demise. Curative measures ought to be adopted according to the indications presented by each patient, but the adage that "prevention is better than cure" is never more true than at this time of life and in cases of this type where the prognosis is always unfavourable if energetic measures of control are not adopted without delay. When arterio-sclerotic changes are first discovered nitrogenous food should be reduced to a small amount, and both alcohol and tobacco indulged in very moderately. All sudden effort or physical work that is sustained and heavy must be avoided. Life generally should be so arranged as to be unexciting and even monotonous. A weekly grain of calomel will provide for free action of the liver, and periodical small doses of iodide and nitrite of sodium with arsenic will help to keep the blood tension low, and possibly aid in delaying the thickening of the arterial walls.

In cases of interstitial nephritis it is again of importance to minimize effort and to curtail the diet, especially in regard to proteins and alcohol. Simple diluents ought to be taken abundantly, and a tumblerful of hot Vichy water before breakfast every morning is of considerable help. The amount of urea in the urine is more important than the quantity of albumin. Marked diminution of urea is an evil omen, and should be treated by complete rest in bed, a milk dietary, mild alkalis, and free hepatic stimulation. The eyes ought to be examined ophthalmoscopically from time to time, the occurrence of albuminuric retinitis being of grave prognostic importance. In diabetes the treatment practically resolves itself into a suitable restriction of diet and the exhibition of opium. One of the most valuable derivatives of opium is codeia, and this drug may be given in bold doses. When administered in combination with arsenic and rhubarb it seldom disagrees; it always has the effect of making the patient happier and more comfortable, and also often decreases considerably the output of sugar. In the matter of diet the fashion of the day is starvation. This plan of Guelpa, more recently elaborated by Allen, is successful in reducing the amount of sugar or in banishing it altogether for the time being, but the trial it makes upon the self-denial of the patient is a tax upon his nervous control which seriously imperils his serenity of temper and happiness of life. Even after a drastic course of such treatment, the sugar ultimately returns, and the unfortunate victim must again, and yet again, be cleansed in purgatorial fires in order to reach the promised land where there is no sugar. In younger patients, when the diabetic process is acute and the nervous energies are still superabundant, such a plan of treatment has much to recommend it, but at the age with which we are now dealing few patients can stand it, and the results are not likely to be brilliant when the probable cause is sclerotic change in the pancreas. The doubt is whether the amount of sugar in the urine is of very much consequence so long as the general nutrition is well maintained. Many patients live comfortably and do a fair amount of work over many years with sugar constantly in the urine. In certain forms of chronic nephritis large amounts of albumin are consistent with a partial recovery; why may it not be equally true of sugar in the case of diabetes? The excess of albumin in the kidney condition is less important than the diminution of urea, which is the gateway to uraemia. Similarly, the excess of sugar in the urine of middle-life diabetes is of small moment compared to the advent of diacetic acid, which is the prelude to coma. Obviously sugar must be excluded from the dietary, but whatever form of starch is found to be best metabolized ought to be allowed in such quantity as the patient's maintenance of weight proves him to be capable of dealing with. Loss of weight up to a certain point is inevitable, especially in those whose adipose tissue has been previously excessive, but when a condition of equilibrium becomes established—and this should be estimated by regular weighing—a moderate excretion of sugar need not be regarded with undue alarm. Diacetic acid should be searched for periodically, and on its first appearance the patient must be put to bed, treated with a more rigid dietary as regards carbohydrates, and with a temporary withdrawal of fats, purged moderately, and given bicarbonate of soda with taraxacum in full doses every three or four hours. In all such patients alcohol in reasonable amount should be allowed.

In women, colitis, rheumatoid arthritis, and hyperthyroidism are the ghosts most to be dreaded at the "change of life." Here again the same interdependency and hereditary influence may be observed as that which has been referred to in connexion with climacteric ailments in men. Women are as a class more careless than men in the proper regulation of their bowels. They suffer greatly from constipation, due in no small degree to the sedentary lives they lead, the less fluid they consume, and their greater liability to digestive disturbances. The consequence is that they fall into the aperient habit often quite early in life, and in many cases reliance upon drugs becomes habitual, the bowels never being relieved except by the assistance of a favourite remedy. In time the tone of the colon suffers, with the result that both its mucous membrane and its muscular wall lose their normal activity, and become sluggish in the performance of their natural functions. As age increases the bowels get more than ever troublesome, and the patient finds the use of stronger aperients imperative. This produces an alternative of diarrhoea with constipation, and ultimately the appearance of mucus and streaks of blood in the stools.

The woman who is the victim of colonic irritation at or about the period of the menopause looks toxic and shows many evidences of impaired nutrition. The muscles are flabby, the breasts shrunken, the tongue coated, the breath offensive, and the skin "muggy." She complains of palpitations, flushings, perspirations, a constant sense of fatigue and sleeplessness. She is never quite free from headache, has little or no appetite, and suffers after every meal from dyspepsia of the atonic type. She is uncomfortable in her abdomen, and is disturbed by intestinal rumblings and grumblings which make her shy of going among her friends or of taking her proper part in the social duties of life. Her bowels never act normally, and her stools are scybalous, offensive, and mixed up with more or less mucus, some of which is blood-stained. She is often a martyr to haemorrhoids, and this increases the discomfort of defaecation, and may produce tenesmus.

On examination there is probably no evidence of organic disease beyond a feeble, irritable, and "tic-tac" heart, but the colon is distended, splashy, and at one or more places—most often at the caecum or at one of the flexures—thickened and slightly tender to touch. The patient is depressed and emotional, with a firm conviction that she is the victim of a serious intestinal malady, and that a dangerous surgical operation will be required to give her any chance of recovery. Here is a short summary of such a case:

CASE V.

M. M., aged 52. A spare woman who belonged to a family with a record of nerve disorders. Her menstruation had been irregular for two years, and ceased altogether recently. She had suffered for three or four years from irregularity of her bowels, and within the past six months had never been free from colicky pains, indigestion, and tenesmus. The stools are offensive, streaked with blood, scybalous, and covered with mucus. She has become thin, irritable, and is always tired. On examination she is listless, and looks toxic. Her teeth have been only casually looked after, and she has some evidence of pyorrhoea. Her reflexes are exaggerated. The heart is normal but the sounds are soft, and there is a relative systolic murmur

at the apex and along the left sternal edge. The abdominal walls are thin and shrivelled; the colon is felt thickened and tender along its whole course, but especially in the region of the sigmoid flexure. No glands can be found, and anal examination is negative. The other organs are normal, and the urine contains an excess of phosphates, but neither sugar nor albumin. Under careful and patient treatment she gradually improved, and when last seen, in May, 1917, she had gained weight, the stools had become normal, the systolic murmur had disappeared, and she was fit for the ordinary duties of life if only she carefully avoided strain and unsuitable food.

Rheumatoid arthritis of the chronic variety is a frequent associate of the menopause. It commences insidiously, and at first causes no more annoyance than slight pain, which comes and goes, and is often confined to one joint only of the right hand. It is regarded as rheumatic and unimportant, but one joint after another gradually stiffens and becomes painful on movement, so that the patient is unable to use her hands with ordinary freedom. The affected joints are fusiformly enlarged, and the neighbouring muscles are wasted, with a resulting deformity that is quite pathognomonic. She is concerned lest she gets permanently crippled, not only in her hands, but in her feet, where in one or other of the larger joints she has recently experienced premonitory warnings. She is often a woman of cheery disposition who has been active and energetic all her life. In later years her digestion has caused some trouble, and she has found an increasing difficulty in regulating her bowels. Her vasomotor system has been unbalanced since her menstruation ceased, so that flushings and perspirations have played a leading part in her discomforts. The pulse is persistently small and rapid, and she experiences alarming palpitations from emotional or other disturbing incidents. Heberden's nodes are usually present, and are most marked on the exterior aspect of the terminal joints of the fingers. She has, or gives a record of having previously had, trouble with her teeth, which has kept her almost entirely in the hands of the dentist. Leucorrhoea has in some cases been a long-standing trouble. Almost invariably she can recall the fact that her mother or other near female relation has suffered from joints similarly deformed to hers when they reached or exceeded her age. Urticaria is met with in many cases, and unsightly growth of hair on the chin is a source of vexation to those who suffer from it. Organic disease only occurs as an incident, and is unrelated to the rheumatoid condition. The following outline of a case is characteristic:

Case VI.

M. F. G., aged 58. Stout and active; all her life subject to chronic rheumatism. Her mother suffered from rheumatoid arthritis for some years before she died. She now complains of stiffness in her hips and one knee, also of difficulty in turning her head because of pain at the nape of her neck. Since her menstruation ceased two years ago her finger-joints have been subject to recurrent inflammatory attacks, and most of them are now deformed and knobby. Her digestion is troublesome. She had all her teeth removed four or five years ago because of pyorrhoea.

On examination she is typically rheumatoid, the knees are greatly misshapen, and creak audibly on movement. There is considerable tenderness over the cervical vertebrae when the head is rotated to one side or other. The heart is practically normal; the arteries are moderately thickened; the lungs are normal. The nervous system is of the neurasthenic type and there is a great exaggeration of the knee-jerks with complete absence of the plantar reflexes. The urine is of low density, but the chemical reactions are normal. The bowels are obstinately confined. When last seen she was in a state of quiescence, but there had been several subacute attacks of pain in the finger-joints, with temporary redness and swelling since the last visit. These attacks were always consequent upon extra worry or some passing disturbance of general health.

Graves's disease, or hyperthyroidism, does not often happen in the fully developed form of exophthalmic goitre, but an incipient variety is met with frequently. As the time of the menopause is approaching the neck is observed to get full at each recurrent menstrual period, and gradually the woman becomes more and more what she describes as "highly nervous." Not only has she the usual flushings to complain of, but her heart beats so rapidly that she is constantly aware of its action, to which she ascribes the tremulousness of her muscles. Both symptoms are unpleasantly increased by over-tiredness or mental worry. Her imperfect emotional control and constant sense of fatigue compel her to seek relief by lying down more or less continually. Her appetite is poor, and she has ceased to take an interest in the affairs of her home and family. She is getting thinner day by day. Mentally she is irritable and despondent.

On examination she looks anaemic, and is so perturbed that she tells her story with difficulty. A mild tremor involves all her muscles, and is increased in a marked degree by putting them to the exertion of any movement. Her knee-jerks are exaggerated, but the plantar reflexes are flexor. Her heart is of normal size, but its action is persistently rapid, from 140 to 160, or, in some cases, more. The sounds are short and sharp, and a soft systolic bruit at the apex and over the pulmonic area is present, and is intensified when the cardiac action, from whatever cause, becomes quickened. Her breath is short and gaspy, but there are no physical signs in her lungs. Her stomach is often distended, and the abdominal organs all seem to sag. The urine is excessive and of low density, but it contains no albumin. Sugar is sometimes present in small amount, but is usually a passing event. In pronounced cases there may be a suspicion of undue prominence of the eyeballs and of slight enlargement of the thyroid gland. The bowels are irregular, and a moderate diarrhoea is readily produced either from unsuitable food or from mental upset. Sleep at night is uncertain, and a rebellious insomnia is not infrequent. The following case is at present under observation:

Case VII.

B. D., 47 years of age, a widow who has had years of worry in her domestic life, stout and of pale complexion. Family history unimportant. For about eighteen months suffered from palpitation, shortness of breath, and tremors. Recently her menstruation had become profuse and irregular. Flushings and other evidences of disturbance of her vasomotor system.

On examination there was marked tachycardia, fine muscular tremors, and exaggerated nerve reflexes. At the apex of the heart there was a short systolic bruit. The thyroid gland was full, and though there was no true exophthalmos the globes of the eyes were prominent, and on excitement became staring. The urine was abundant, and contained a trace of albumin; from time to time it reduced Fehling's solution, but there was no established glycosuria. Her sleep was uncertain and dream-disturbed. She was restless, depressed, and her memory recently had failed considerably.

Complete rest, thymus gland extract, and a mixture of valerian, digitalis, strychnine, and codeia had the effect, after a time, of bringing about a decided improvement. The tremors diminished, the eyes became normal, the pulse slowed down from 120 to 80, and the cardiac murmur disappeared. Anything more than the most moderate excitement still brought back the tremors and tachycardia.

As in the case of climacteric disorders in men, so in the three foregoing ailments to which women are prone, ulterior consequences are apt to emerge if a check is not put on their progress. Colitis, if long-continued, impairs the mucous membrane of the large intestine, and predisposes to thickening and sagging, with all the consequent miseries that depend upon the drag and displacement of the abdominal contents. The impairment of vitality in the coating of the bowel may end in an ulcerative process which is difficult to repair, and may in many directions become dangerous to life. Chronic enteritis will cause niggling pains and troublesome irregularity of the bowels, with much flatulence and unpleasant borborygmi. Toxaemic consequences cause the patient to look ill, impair the general nutrition, and may end in a marasmus almost as pronounced as that produced by malignant disease.

Rheumatoid arthritis is almost always rebellious, and produces changes in and about the affected joints, of which the penalty is a permanent and characteristic deformity. When the disease invades the vertebral column the miseries and helplessness of the patient may compel for a time complete rest in bed. Until the pathologic process has been arrested there is constant risk of intercurrent acute exacerbations, when the joints become red, swollen, and painful, to the accompaniment of disturbed digestion, pyrexia, and a condition of neurasthenia with all its bewildering manifestations of functional instability. Fibrositis, sciatica, and lumbago are to be feared as hindrances to the progress of recovery.

Graves's disease, though generally met with in an incipient form, may pass from that stage to fuller development, and end in exophthalmic goitre. Even in its minor degree it is accompanied by disturbance of the nervous system, and sometimes leads to a mild degree of mental aberration. The thyroid gland may become enlarged apart from any change in the eyes. Every case is

associated with a risk of glycosuria which from small beginnings may end in a permanent diabetes. Intestinal difficulties are common and the colon may prove troublesome. Pigmentary changes in the skin may declare themselves in the form of leucoderma, and patches of alopecia sometimes become established on the scalp.

Here again we have three examples of climacteric disease in women with an inter-allied relationship no less notable than that found between the examples selected for illustration as being frequent in men at the corresponding period of life. The causative influence in all three is probably a toxaemia by which metabolism is more or less seriously interfered with. The toxic process has been going on over many years with passing increase or diminution of virulence according to the demands made upon the resisting powers of the individual. Finally, when the menopause arrives and temporarily disturbs the equilibrium of health, the toxins concentrate their energies and produce symptoms indicative of selective intensity in one direction or another according as it is guided by inherited tendency or personal idiosyncrasy. The nervous system has to bear the primary weight of the pathological condition, and we find in each of the cases quoted, just as in those exemplified by men, an irregularity of nerve supply which, added to the organic changes that have taken place, complicates the symptomatology and increases the uncertainty of the prognosis. These ailments are apt to overlap one another, and more frequently present themselves as a united clinical picture than as a true-to-type malady. Colitis enters into the make-up of the story of many cases of rheumatoid arthritis, which, in its turn, is often an associate of hyperthyroidism, while all three may find full expression in the same patient. The following case fully bears out this statement:

CASE VIII.

M. P., aged 63, a spare, active woman, who had suffered for some years from chronic rheumatism, and gave a history of temporary glycosuria about ten years ago. She complained of recent loss of flesh, weariness, constant palpitation, and irregularity of the bowels, with recurring attacks of colicky pains, diarrhoea, and mucus-coated, blood-stained stools.

On examination her terminal finger-joints were deformed by Heberden's nodes, and several of the interphalangeal joints were spindle-shaped and enlarged. Each hand was deflected to the ulnar side, and there was wasting of the interosseous muscles. The lungs were moderately emphysematous, and the chest was rigid. The heart was enlarged, but the apex beat was difficult to find because of the overlapping lungs. There was a systolic murmur at the aortic cartilage, and the second sound was accentuated. The arterial tension measured 140 mm., and the pulse was of the Corrigan type; it never numbered less than 120, and on many occasions ran up to 140. There was a constant tremor, varying in intensity. The colon was tender throughout all its course, and was thickened at the caecum and over the splenic flexure. No glands were felt. The urine was straw-coloured, of 1037 density, and contained 22 grains of sugar to the ounce, but no diacetic acid.

During three years after this note I saw her from time to time. She gradually developed a diastolic aortic murmur, and her left lens became cataractous. She went repeatedly to Harrogate, and derived benefit from the treatment there so far as the colitis was concerned. She had occasional recurrent attacks of mild arthritis, and the amount of sugar varied from time to time, but never exceeded 25 grains to the ounce. Latterly, she developed a mild albuminuria. Eventually she died of pneumonia.

If climacteric illnesses in women do not so clearly indicate as in men the advent of degenerative tissue changes, the toxaemia on which they depend cannot fail in time to have a debasing influence on all the cells of the body. The conditions of her life are generally less arduous than in man, and the climacteric period is reached earlier. Her vital energies are therefore better preserved, and her tissues have not yet begun to degenerate.

She may get arterio-sclerosis, or interstitial nephritis, but it is generally later than at the time of the menopause. On the other hand, the glycosuric liability may develop earlier than in man on account of her proclivity to thyroid mischief. Metabolic failure to deal with carbohydrates has, in her case, a thyroid, rather than a pancreatic, origin.

A few sentences only need be added in regarded to treatment. One leading indication is, from the preventive aspect, important—namely, the necessity for combating in every possible way toxaemic intoxication. This is most likely to be successfully accomplished by a careful regimen; the proper regulation of the bowels and the occasional stimulation of the liver; a suitable amount of daily exercise in the open air; avoidance of worry and excessive fatigue; and by an attempt, through the use of intestinal antiseptics, to keep the whole length of the digestive tract clean and wholesome. In cases of colitis douches are sometimes useful, but they are an unpleasant form of treatment for the patient and may create an undesirable reflex effect upon a nervous system already touchy. Beta-naphthol, bromide of ammonium, and bismuth is a useful combination, the good effects of which will be intensified by an occasional dose of calomel or podophyllin. The bowel should be lubricated by a tablespoonful of liquid paraffin every morning before breakfast. The wearing of a suitable belt during the day supports the abdominal wall and helps to keep the colon in its place. Since it is probable that rheumatoid arthritis owes its origin to gastro-intestinal poisoning, the same treatment as is helpful in colitis applies in its case. It has been claimed that guaiacol carbonate is specially useful, but it is probably no more effective than the other antiseptics already mentioned. Hot-air baths at home are of value, and residence during the cold months of the year in a warm and dry climate such as that of Egypt is desirable. The vogue of modern remedies has caused many of those that are older to be forgotten or rejected as obsolete, but it is well to remember the efficacy of guaiacum in combination with sulphur, given in such a daily dose as provides for a comfortable and easy morning evacuation. In cases of hyperthyroidism, the usual treatment by bromides, strophanthus, belladonna, and arsenic, is greatly aided by the administration of suprarenal or thymus gland extract. The results are often brilliant, and improvement may follow their use when all other methods of treatment have been unavailing. Which will prove the more helpful in any given patient can only be ascertained by the experimental exhibition of first the one, and then, if need be, the other. There seems to be no guiding indication as to choice, and not uncommonly when one fails the other succeeds. Absolute rest in bed or on the sofa for three or four weeks is an essential element in the treatment of all these cases, and they seem to do better in a relaxing inland climate than at high altitudes or near the sea.

A clinical survey such as this compels us to recognize how important, in both sexes, is the climacteric period of life, and how essential it is to treat the ailments which may accompany it with perseverance and careful attention to detail. The secret of success lies in convincing the patient that the years are beginning to tell their tale, and that a new and more subdued plan of life must be found and courageously adopted in order to escape the danger of a too early advent of the time when "the grasshopper shall be a burden, and desire shall fail."

BONE GRAFTING IN UNUNITED FRACTURES OF THE MANDIBLE:

*WITH SPECIAL REFERENCE TO THE PEDICLED GRAFT.**

BY

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THE evolution of the bone graft as applied to ununited fractures of the mandible is a matter of considerable interest. Since the outbreak of war orthodox opinion has undergone a radical change. The extent of this change can be gauged by a perusal of the *Transactions* of this Section. At a meeting of this Section in 1916 bone grafting as a means of dealing with non-union was mentioned merely for the sake of academic completeness. Practically, it was either ignored or regarded as a manifestation of somewhat ill-advised activity on the part of surgical visionaries. Compare this view with that deliberately voiced last session by the then president of this Section. In March, 1918, Mr. J. H. Badcock summed up the position

* Read at a meeting of the Section of Odontology of the Royal Society of Medicine, November 25th, 1918.

thus: "It is evident from the collection of cases on view this evening that the operation of bone grafting as a cure for ununited fractures of the mandible has passed beyond the experimental stage into the region of assured success in a very large proportion of cases. But such success can only be expected when a surgeon and a dentist work in close and sympathetic collaboration, with the full understanding of each other's aims and efforts. No surgeon dealing with fractured jaws can afford to neglect this operation, and no ununited mandible should be given up as hopeless until it has been given a fair trial."

Unfortunately this finding, based on the evidence of results, has been by no means universally adopted. Thus, in an article in the *British Journal of Surgery*, July, 1918, which deals with the treatment of cases at a recognized jaw centre, this statement is made: "Fibrous union is treated by a suitable prosthetic appliance." It is obvious that the treatment of non-union has not been standardized. Opinion tends to the condemnation of the *non possumus* attitude that characterized the earlier days of the war, but procedure is neither settled nor consistent.

How important it is to formulate a consistent, clear-cut policy must be apparent to all. The treatment of ununited fractures is essentially a peace problem. The exigencies of warfare can no longer be invoked to extenuate procedures that fall short of the best, either in plan or in execution. Throughout four years of war the simpler cases have been dealt with to a finish. The clear supernatant fluid has, as it were, been drawn off, leaving a precipitate of remediable or hopeless non-unions. How numerous are these cases, and how have they been dealt with? We are unable to answer those questions, but certain facts can be adduced to show how necessary it is that they should be answered. As to their number, information is very scant, but certain figures are available. Northcroft had 10 per cent. of non-unions in his series; Forty had 16 per cent., and we, counting all types of cases, had 11 per cent. It may fairly be estimated that non-union occurs in approximately 10 per cent. of all mandibular fractures. If this be so, the number of ununited fractures must be considerable, for over 1,300 cases have been treated at the King George Hospital alone. The constant appeals made for statistics bearing on this question have, as noted, evoked but little response.

That non-union can only be remedied by operative measures is an admitted fact. To what extent and with what success surgical intervention has been invoked it is impossible to judge, for the only series of cases other than our own is that published by Platt, Campion, and Rodway. This much is certain, that for at least two years after the outbreak of war isolated attempts only were made to deal surgically with these lesions. As a rule, the attitude assumed by those in charge of these cases was expectant and non-committal, but occasionally active hostility was encountered.

Taking all these circumstances into consideration, one must conclude that a large number of ununited fractures have been discharged from hospital, their treatment being allegedly completed. Let it be remembered that no surgeon would regard non-union of any other bone as a satisfactory termination to treatment. Let it be remembered, too, that the disability from an ununited fracture of the mandible tends to become progressively greater as teeth now used for abutments are lost; also, that the maximum of disability will obtain at an age when the compensatory powers of the individual are on the wane. Remembering these things, we maintain that every case so situated should be carefully reviewed, and that wherever possible the condemning dictum should be revoked. Let us quote a striking passage from Mr. John Galsworthy in the first number of *Reveille*:

> Be not trustees of your own departments first, and servers of the general purpose second; keep the restoration of the wounded man in the forefront of your minds and sacrifice everything else—even your own dignities—to that. Restoration of the man and nothing else matters.

The benefits derived, the chances of success, the penalties attaching to failure, the risk incurred, the methods to be employed—such questions as these must be investigated, and upon the answer to them will depend that settled conviction which must necessarily precede the consistent adoption of any fixed plan of treatment. In short, a verdict, favourable or otherwise, must be based on the evidence of results.

It is on that account that we have brought for your inspection every available case, irrespective of their condition or the date of operation. These cases number twenty-three, and include nineteen pedicled grafts and four free transplants. In addition, cases have been shown which are regarded as suitable for one or other of these grafting operations.

The proportionately large number of pedicled grafts will be noted. We have employed this method in thirty-four cases. Free transplants have been employed in twelve cases only. The latter method is only adopted when a pedicled graft cannot be utilized.

The pedicled graft operation has been described in previous communications,[1] and it is therefore not necessary to recapitulate the details. The use of this method has been extended to the utmost, and as a result certain improvements have been introduced. It is now usual to perforate the graft posteriorly (Fig. 1, A, B, C). The fixing wire is passed through the substance of the bone, instead of surrounding it, and thus firmer and more reliable contact is obtained. At times both ends of the graft are perforated. Experience has shown that a much more bulky fragment may safely be detached than we were wont to use. For both of these improvements we are indebted to Captain Tainter of the United States Medical Service, whose valuable assistance has been placed at our disposal.

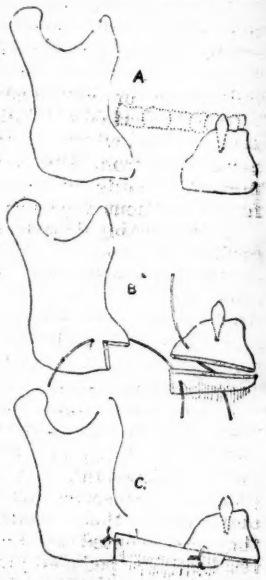

FIG. 1.—A, Diagram of fracture. B, Graft cut. Posterior fragment freshened and wire passed. C, Graft fixed in position. Pedicle shown schematically.

Another point not previously emphasized is the rigidly aseptic method employed. Skin margins are guarded by towels clipped to the edges of the wound; all knots are tied with forceps and no handling of wound or graft is at any time permitted. Some may maintain that such technique is totally unnecessary and savours of surgical pedantry. It is, however, well to remember that the standard aimed at is rarely attained and that within limits it is impossible to err on the side of a too rigid technique. That the precautions taken are well within these limits is shown by the fact that the operation rarely takes more than one hour and a quarter and is often completed in fifty minutes.

We propose briefly to summarize the conditions our experience shows to be necessary to permit the performance of a pedicled graft operation.

1. *Site of Fracture.*—The loss of tissue must implicate the horizontal portion of the bone—that is, the lesion must be situated at or in front of the angle.

2. *Size of the Gap.*—This should usually not exceed 4 cm. In favourable circumstances it is possible to cut a thick, well-nourished graft of 6 cm. in length, and a gap of 5 cm. (before trimming) may thus be dealt with, if end-to-end union is resorted to.

3. *Condition of the Soft Parts.*—It is necessary that the tissues of the submaxillary triangle should be free from scar tissue on the side from which the graft is to be cut. It is extraordinary how frequently this area escapes even when the soft tissues of the face are extensively damaged.

Nothing has been said as to the more precise situation of the fracture because a lesion on one side can be dealt with by a graft taken from the opposite side. The ability to do this has been demonstrated on several occasions. It entails a considerable dislocation, the definition of a long pedicle, and a consequent tendency to displacement. In two cases of this nature with maximum gaps the results, though good, have not up to now been entirely satisfactory. In both cases the lower jaw was edentulous and atrophic, thus seriously limiting the amount of bone detachable; in both cases the operation was undertaken through scar tissue, and in neither case were perforating wires utilized. In extending the application of an operation a limit must be reached, and reached, in our judgement, it has been in the cases detailed.

It is impossible to refrain from commenting on the technical difficulties forced upon the surgeon by the edentulous jaw. The cases here to-night show how rapidly these jaws become frail and atrophic, militating thus against grafting by any method and adding to this nutritive difficulty the technical one of efficient fixation of the fragments. We are glad to note that, amongst others, Major Pickerill has joined his protest to those we have made from the earliest period of the war, and we take this opportunity to reiterate our conviction that the multiple extraction of teeth is a policy that should be abandoned.

A brief statement may be made as to the progress of these cases. Without exception, they have been out of bed before the skin stitches have been removed. Progress has been throughout uneventful; an alveolar abscess occurred in one case and stitch sinuses in two others. The splints are removed in from ten to twelve weeks according to the size of the defect. At this time a slight "give" is noticeable corresponding to the plastic stage that occurs in the union of all fractures. As a rule, this bending phenomenon gradually disappears, and firm union ensues in from four to six months. Occasionally union fails at one or other end. A secondary wiring operation is then undertaken. This has been invariably successful, and the graft when exposed has been indistinguishable in appearance from other living bone. The overlap originally present permits of this secondary operation being performed without any sacrifice of occlusion.

An interesting departure is the treatment by a pedicled graft of two cases in which previous free transplants had considerably diminished the gap but had failed to determine union. A case of this description was grafted in Switzerland. He came to us with free mobility but with a gap that could readily be bridged by a pedicled graft. A sinus was present at the time of operation but no untoward effect has been noted.

It has been stated that 34 cases have been dealt with by this method. In 23 the result is known, and of these 21, or over 90 per cent., have been completely successful. In the two remaining cases the patients themselves are thoroughly satisfied, but we can only regard their condition as considerably improved; they are counted as failures in the appended table of results. The pedicled graft operation permits the utilization of a portion of living bone, possessed of its own blood supply, passing to it from a natural musculo-fascial pedicle. The method of Cavalié, for which similar claims are made, cannot justly be regarded as a pedicled graft operation. The results support this contention, for they have been far from satisfactory.

Free transplants are only employed when conditions do not permit the use of a pedicled graft.

Apart from the question of technique, the factors that determine the success of a free transplant may be dealt with as follows:

1. *The Condition of the Soft Parts.*—The operation should not be attempted in the presence of frank or concealed sepsis. We always allow three months to elapse after obvious sepsis has disappeared. As the graft is not vascularized from the bed in which it is implanted the vascularity of the bed is not of direct importance. All that is required is that the soft tissues shall be pliable enough to permit nice adaptation of the graft, and well nourished enough to maintain their vitality when sutured, and thus prevent the introduction of sepsis from without. Excision of puckered and adherent scars is frequently necessary, and plastic operations should be so planned that exposure of the bone ends may be accomplished without undue risk of opening into the mouth.

2. *Condition of the Fragments.*—The size of the gap is not material as an isolated factor. We have successfully dealt with a case in which the graft, 7 cm. in length, extended from the facial vessels on one side to those on the other. The condition of the fragments is most important, both from the point of view of reparative power and the facilities afforded for efficient immobilization. The ends of the bone always tend to become atrophic and sclerosed. This process is progressive, and hence any undue delay seriously diminishes the chance of success. The age of the patient, too, is a most important factor. Delay, then, on both these counts is to be deprecated. So convinced are we of this that we urge operation after a reasonable trial of more conservative methods. This is a question that vitally affects the welfare of the pensioner. The treatment of old non-unions brooks no delay, for every day that passes steadily diminishes the chances of success. The edentulous fragment is an even more burdensome difficulty than in the case of the pedicled graft. If we were asked to state what single item in the treatment of jaw cases had given rise to the most difficulties, disappointments, and failures, we should unhesitatingly answer—the indiscriminate extraction of teeth.

3. *The Graft Itself*—This may be taken from tibia, rib, crest of ilium, or scapula. In short, the graft may be taken from any bone, the choice depending on accessibility and the physical disposition of the portion removed to conform to the shape and size of the gap and to the methods of fixation employed. The presence or absence of periosteum is not material, as our cases conclusively demonstrate. The results obtained do not compare favourably with those by the pedicled graft method—hence our preference for the latter. In the case of the long bones, Hey Groves has recently published a series of 34 cases with complete success in 55 per cent. In the series of Platt, Campion, and Rodway the results were extremely satisfactory, and the authors are to be heartily congratulated. The osteo-periosteal method of Delagenière has, according to reports, given extremely good results. A series of cases grafted in this manner was the subject of a paper by Lebidnisky and Virenque at the Inter-Allied Conference. These same authors discuss the method very fully in the book recently published by them. Further information is required as to the size of the gap that can thus be dealt with successfully.

Of our own 12 cases the result is known in 10, and of these, 7 have been completely successful, giving a percentage success of 70. Splints are removed in from three to six months. Progress is slow, and firm consolidation cannot be expected in less than six months to a year.

We have questioned the earlier patients in both groups as to their present function. Ten replies only have been received. All state that the jaw feels solid; five of these (all pedicled grafts) are on ordinary hard diet; four of these state explicitly that they "can eat anything." As regards the other five the replies are disappointing. One can eat meat if stewed (free transplant); the other four (two pedicled and two free grafts) can only eat meat if minced. This question of subjective evidence is beset with difficulties. When the evidence is positive—when a man states that he can eat anything, that statement obviously can be accepted without demur. The same cannot be said of negative evidence. In several cases we know, from observation, that such negative statements have been incorrect. Unsupported negative statements are open to question when at variance with what clinical examination would lead one to expect. The reasons for this are obvious, and will be appreciated by all those present who have knowledge of the working of the Workmen's Compensation Act.

From conversation with our most intelligent patients we are convinced that disability is a muscular failing. When it is remembered that many of our cases have been under treatment for two years, coming to us after a year or eighteen months in splints, this muscular disability is scarcely to be wondered at.

A man with a compound fracture of the femur can perhaps get about fairly well at the end of six months; one does not expect him to be able to play football. Football to a femur is as hard food to a jaw, and we think that, even with union, some functional disability will frequently be long-standing. Ability to masticate is restored invariably to the sound side first, an ability which, in the presence of mobile non-union, is impossible. On the affected side ability is delayed—the jaw, as it were, walks with a limp.

The position as regards all cases of non-union dealt with by us may be tabulated thus:

Nature of Operation.	No. of Cases.	Result Known.	Failure.	Success.
Plating	2	2	2	0
Wiring	20	20	1	19
Pedicled graft	34	23	2	21
Free transplant	12	10	3	7
Operation abandoned ...	3	3	3	0
Total	71	58	11=19%	47=81%

No selection whatever has been exercised; we have operated on every case submitted to us. It will be noted that the balance is heavily weighted against ourselves. Thus three cases are counted as failures, in which the physical conditions found by exploration rendered, in our judgement, any further steps impracticable. Again, no "improvement" column has been included, though in most cases improvement has been considerable. In no case has the patient's condition, general or local, been

adversely affected by operation. Finally, there has been no mortality, and no complication of a nature to cause alarm.

REFERENCE.

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PELVIC MEASUREMENT IN ANTE-NATAL CLINICS.

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THE following notes have been written in the hope that they will prove of use to those engaged in frequent and routine examination of the pregnant woman. One of the first objects of the work in the ante-natal clinics is the measurement of the pelvis and the recognition of contraction in order that obstetric disasters may be anticipated, and therefore prevented.

The importance of complete pelvimetry in every primigravida and all multigravidae with a history of instrumental or difficult delivery cannot be overestimated, for during the course of such routine examination it is surprising to note that a relatively large number of women show degrees of pelvic contraction which are slight, but sufficient to cause a difficult labour. The grosser degrees of contraction are usually recognized easily, and adequate prophylaxis arranged, but so much may be done for the less marked cases by accurate recognition followed by timely induction of labour, perhaps only a week or two before term, but yet long enough to prevent the risk of fetal death during a tedious delivery.

If measurement of the pelvis were a certain means of knowing the size of the brim the examination and its judgement would present little difficulty, but, unfortunately, in the slighter degrees of contraction the measurements often give no true information, and if reliance be placed upon these figures, and no further examination be made of the manner in which the head is behaving in or above the brim, there may be surprise at the time of labour that a difficult forceps delivery is required. The converse also is true—that a pelvis apparently, by external measurements, contracted is found to offer no impediment to the subsequent passage of the head.

The usual measurements made during an ordinary examination are three, together with an attempt, generally unsuccessful, to estimate a fourth. Of the three two concern the false pelvis—namely, the interspinous and the intercristal diameters; but these measurements are of little value—in fact, scarcely worth the trouble of recording except when altered to a marked degree, in which case other diameters give more information.

The interspinous is described in the books as 10 in. (25 cm.), but it seldom reaches this figure, and may vary from 8½ in. (21 cm.) to 10 in. (25 cm.) in a pelvis with a basin normal in size. It is most commonly a little over 9 in. (22.5 cm.). The intercristal is a little more constant, between 10½ in. (26 cm.) and 11 in. (27.5 cm.), and diminution of this diameter may be of more consequence as indicating a contraction of the transverse diameter of the brim, and therefore a generally contracted pelvis. It is probable that if ½ in. (1.25 cm.) be deducted from this and the resultant figure halved, a fairly correct measurement of the transverse diameter of the brim is obtained. Much importance has been attributed to a diminution of the difference between these two diameters as indicating a flat pelvis. This is true for severe degrees of flattening, but in the great majority of slightly flattened pelves there is no alteration whatever; in fact, the normal difference of 1 in. (2.5 cm.) may be increased.

The more important measurements are those of the true pelvis, and of these the external conjugate probably gives the most information. This should properly be measured from the depression below the tip of the last lumbar spine to the upper border of the symphysis. An error is often made in obtaining this diameter because the anterior limb of the pelvimeter is placed upon the anterior surface of the pubes instead of being carried well on to the upper border, so that the tip of the instrument is flush with the posterior surface of the symphysis, hence the diameter is usually made greater than it should be. It is often stated that the external conjugate is unimportant because the amount of fat is variable, and the figure obtained therefore unreliable. But fat does not tend to a great extent to be collected over bony points like the vertebral spines, while the difficulty of excess of fat over the symphysis can be overcome by pressing in the pelvimeter more deeply. In normal pelves this diameter is found to be remarkably constant at 7⅛ in. (18.25 cm.). In some cases, however, there is a variation, due not so much to fat as to a varying thickness of the mass of bone between the tip of the spine and the sacral promontory. That this is probably so is shown by the fact that a normally sized head will sometimes engage deeply in the brim of a pelvis whose external conjugate measures only 7 in. (17.5 cm.), or even 6¾ in. (17.25 cm.). In these cases the contraction of the diameter is probably due to diminution in the thickness of the vertebra.

An external conjugate of 7¼ in. (17.75 cm.) indicates scarcely any appreciable contraction of the true conjugate, and usually the engagement of the head is normal, but if it be diminished to 7 in. (17.5 cm.) it is frequently observed that the head remains higher than it should, and labour at term is unduly prolonged. In some of these patients there is definite non-engagement of the head followed by a protracted delivery. If the reading reaches only 6¾ in. (17.25 cm.), almost certainly will there be found non-engagement of the head.

The posterior interspinous diameter, normally 4½ to 5 in. (11.25 to 12.5 cm.), should be measured from the two small depressions immediately external to the tips of the posterior superior spines, as this diameter almost exactly corresponds to the maximum width of the sacrum in the circle of the pelvic brim, which makes it a useful index of sacral development. Diminution in this diameter occurs in small degrees of generally contracted pelvis, because the sacrum is of a smaller model than normal, and also in the severer cases of flat pelvis because the sacrum is sunk more deeply between the iliac bones, thus allowing the posterior superior spines to become approximated by the inward pull of the sacro-iliac ligaments.

The external conjugate and the posterior interspinous diameters should be considered together when judging a pelvis. Small contraction of both will usually indicate a slight degree of general contraction, while a diminution of the former and the latter unaltered points to a small amount of flattening.

In the large number of pelves undergoing routine examination it is comparatively seldom that the diagonal conjugate can be estimated owing to the inaccessibility of the promontory. No measurement of this diameter is trustworthy unless the finger can just pass the promontory, for, unless this can be done, one is never sure that the highest point is reached. Few fingers can reach more than 4¼ in. (10.5 cm.). It is usual to subtract ½ in. (1.25 cm.) from the diagonal conjugate to obtain the true conjugate, but if the promontory be felt to project far forward, indicating a steep inclination of the brim to the horizontal, at least ¾ in. (2 cm.) should be deducted. In addition to an attempt to feel the promontory, the finger should be swept round the pelvic cavity to gain a rough idea of the size of the basin and the width of the subpubic angle.

But in spite of the most exact pelvimetry, slight degrees of contraction will often remain undetected unless the extent of the engagement of the fetal head is carefully examined. As Dr. Hubert Roberts says: "The best callipers is the baby's head." In the normal primigravida the head is usually deeply engaged in the brim, especially when near term, but sometimes it is high up. For this there may be obvious reasons, such as a full bladder and rectum, while pelvic contraction accounts for others, but there is a residue which do not admit of a ready explanation. When, however, the head can be pressed down into the brim, the pelvis is either normal, or, if contracted, the head has not yet reached such a size as to be incommoded by the diminished diameters. But if the head cannot easily be depressed by firm pressure this is usually due to contraction or to extension, the latter condition being easily diagnosed. The facility with which it is possible to press down the head is a most important clinical estimate, and should be observed with care.

It is usual to recognize three degrees of position of the head with reference to the brim—it may be *floating* (movable above the brim), *engaging* (movable in the brim),

or *engaged*. If the head is found to be floating or too high, it is next necessary to attempt to force it down into the brim, and thus gain an idea of any disproportion that may exist between the head and the brim. This is best done by standing so as to face the woman and placing the fingers of both hands flat upon the head, and forcing it firmly backwards and downwards. By this manœuvre one can recognize three degrees of ease in causing descent. Firstly, the head may be easily depressed deeply into the pelvis; secondly, it may be possible to depress it a slight distance, after which the sensation obtained is as if one were pressing the head on a mass of rubber; in other words, there is an impression of resiliency; thirdly, it is impossible to cause any descent at all. In many cases there is doubt as to whether the head can be made to descend, because small amounts of movement can scarcely be appreciated by the abdominal hand. If this be so, it is necessary to examine by Munro Kerr's method. The woman lies upon her back, and the finger of the right hand is held rigidly in the vagina so as just to touch the vertex if this is low enough to reach, while the left hand grasps the head and attempts forcibly to press it down. By this method a degree of descent too small to be recognizable by the abdominal hand alone can easily be appreciated by the vaginal finger. But the existence of mere descent is not enough. When the head is very high it can be pushed down on to the brim, but often not into the brim, which is the condition we aim at producing.

Having, then, made a full examination of the pelvis as above, the important point is the question of treatment for patients with pelvic contraction. The indications will be the position of the fetal head in relation to the brim, and the period of gestation.

Firstly, even if the measurements are contracted, but the head week by week during the last months is found to be engaged, or can easily be made to engage, then induction of premature labour should be withheld; but, if the head is found not to be engaged, or only engaging, repeated attempts should be made to cause descent as described above. Usually, from the thirtieth to the thirty-sixth weeks there is no difficulty in this, but sooner or later the manœuvre will become more and more difficult until finally there is a doubt as to whether the head can be pushed down at all. If labour be induced at this time it will generally be found that it is unnecessarily easy, while the child will have been deprived perhaps of a further week of gestation. The best procedure is to wait until the head can just *not* be pressed down, and then to send the patient for induction immediately. In the majority of cases the labour will not be too difficult, and the child will have been given the maximum period of intrauterine life. The usual tendency is to induce labour too soon, in the fear that the head is too large, with the result that labour is much quicker than was expected.

In those cases where the head remains floating and incapable of engagement and descent before the thirty-sixth week, it is a question whether Caesarean section at term is not better treatment then induction of premature labour, and this alternative should be put before the patient.

In conclusion, I would urge ante-natal medical officers to look carefully for the slighter degrees of pelvic contraction, as it is these cases which are apt to go unrecognized and result in tedious labours at term, with a high rate of morbidity and a greater risk to the child's life.

PRIMARY SARCOMA OF THE PROSTATE: RAPID GROWTH FOLLOWING INJURY.

BY

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CASES of this rare disease are worthy of being recorded. The infrequency of its occurrence is demonstrated by the circumstance that out of the immense number of cases seen at the Hôpital Necker, in Paris, only one sarcoma of the prostate has been discovered. The disease was first described by Stafford in 1839, and in 1858 Thompson was able to discover only 6 cases; in 1902, by the research of Burckhardt, 24 cases in all were collected.

The case about to be described is of interest from a surgical point of view because of the disease, and from a legal aspect on account of the injury. The patient's wife obtained compensation in the Sheriff Court of Lanarkshire.

W. B., aged 35, was admitted to the Glasgow Royal Infirmary under my care on May 2nd, 1917. He then told me that prior to the accident on March 10th he enjoyed good health. On that day by a fall while he was at work in a pit he received an injury to the perineum and testicles. This caused difficulty in passing urine and slight bleeding from the urethra. He was treated by his own doctor till the beginning of May.

When admitted to the infirmary he was suffering from severe pain in the region of the bladder, and retention of urine which demanded the use of the catheter; the urine which was drawn off was alkaline, containing some blood, pus, and triple phosphates. He also showed symptoms of septic absorption. Rectal examination showed a round, smooth, soft enlargement of the prostate.

As the haematuria was severe, and the general symptoms alarming, I performed suprapubic cystostomy on May 9th, permitting a large quantity of decomposing urine to escape, while a considerable blood clot was also removed. This done the prostate was found to be occupied by a soft fungating growth which could be traced into a small cavity in the prostate. It had well-defined walls; the opening admitted my forefinger, and with it the tumour mass was easily removed; afterwards the cavity was curetted.

A portion of the growth was examined by Professor Teacher, and proved to be a round-celled sarcoma. A large drainage tube was inserted into the bladder, and free drainage established. This gave complete relief from pain, and the patient's general condition improved, but, although less profuse, the haematuria continued, and within a fortnight, when a second exploration was made, the tumour was found to have recurred, and to be of greater bulk than when the patient was admitted. As in the circumstances I did not consider myself justified in recommending cystectomy, he left the hospital at his own request on July 3rd, when the bladder was almost completely filled with tumour.

The case was a hopeless one, and by performing a radical operation the legal aspects would have been seriously complicated, my opinion being that prior to the accident there was a small encapsuled round-celled sarcoma in the prostate, which, if uninjured, would probably have remained quiescent for a long time. The fall caused a contusion of the perineum and the scrotum, showing that considerable force had been exerted on the parts. This force by being conveyed upwards would readily cause rupture of the capsule of a soft sarcoma in the prostate, but evidently was not sufficient to produce a rent in the mucous membrane of the bladder, hence no free bleeding was observed immediately after the accident. The capsule of the sarcoma being ruptured by the blow the tumour extended rapidly, and at the beginning of May penetrated the mucous membrane, and so bursting into the cavity of the bladder caused profuse bleeding with retention of urine.

Surgical treatment gave relief to the immediate symptoms, but the tumour, which was small when first noticed, rapidly increased while the patient was under observation, and within three months it practically filled the bladder. Soon afterwards the patient died from haemorrhage and exhaustion. A claim was made under the Workmen's Compensation Act and full compensation was awarded.

A point of clinical and pathological interest in this case is the effect of injury in inducing rapid extension of the sarcoma, and in this connexion I may quote a passage from *Tumours Innocent and Malignant*, by Sir John Bland-Sutton,[1] as applied to sarcoma of the mamma, where such tumours are more frequently met with than in the prostate:

> In regard to sarcoma of the breast, there is a definite opinion held by experienced surgeons to the effect that there are many carefully observed and thoroughly reported cases in which primary sarcoma of the breast has quickly supervened on a single intensive injury. The sarcomatous nature of the tumours has been ascertained by a microscopic examination at the hands of a competent pathologist, and their malignant nature has been confirmed by the early death of the individual. It is undeniable that a single intensive blow or knock on the breast may be occasionally followed by a sarcomatous tumour.

Injury is now generally admitted by surgeons to be an etiological factor in carcinomata and sarcomata, but it is difficult to say what exact relation such injuries bear to the genesis of malignant neoplasms. The case here described appears to me to throw some light on the subject. Here we have a man enjoying what appeared to be perfect health; he receives a severe blow on the perineum, and two months afterwards I find the bladder occupied by a large fungating sarcoma, which protruded from a cavity in the prostate, the walls of which were well defined. That there was a well defined cavity showed that the growth had been encysted, and that it was not an infiltrating tumour to begin with. If the tumour had been caused directly by the injury the growth would have been diffuse, no

capsule having had time to form. It therefore seems reasonable to accept the view that the injury ruptured the capsule and caused the rapid spreading of the neoplasm. May this not also be true of traumatism as a cause of malignant disease elsewhere? Can the injury of a healthy tissue, independent of other factors, produce disease? I consider the answer must be in the negative. It is true that many diseases and tumours closely follow contusions, but the injured tissues are not healthy, there is some other element, known or unknown, of greater importance—organisms in tuberculous disease and in septic conditions, and probably small undiscovered tumours in malignant disease.

In America, Charles A. Powers,[2] M.D., of Denver, has made a careful study and analysis of the literature accessible to him and also gives a very complete list of references. He only discovered 22 cases of primary sarcoma of the prostate the histology of which has been demonstrated by microscopic examination. Including his own case the tumours were classified as follows:

Small round-celled	8 cases
Spindle-celled	3 ,,
Myxosarcoma	3 ,,
Spindle-celled and myxosarcoma	2 ,,
Small round-celled and spindle-celled	1 case
Angiosarcoma	2 cases
Adenosarcoma	1 case
Mixed celled	1 ,,
Large round-celled	1 ,,
Microscopically examined, but form not given	1 ,,
Total	23

The ages of the patients in the 23 cases classed as authentic are as follows:

0 to 15 years	13 cases
16 to 30 ,,	4 ,,
31 to 60 ,,	5 ,,
Over 60 ,,	1 case
	23

About a half of the cases were either round or spindle-celled growths, while the remainder were mixed tumours, and 56.5 per cent. were under 15 years of age.

Surgeons are agreed that primary sarcoma of the bladder is a very rare disease, but whether or not a clear distinction between tumours originating in the prostate from those arising in other parts of the bladder has been always made is difficult to say. Albarran found that out of 89 tumours of the bladder only two, on microscropical examination, proved to be sarcomatous.

Chassia Munwes[3] found that of 107 cases 75 were submitted to operation by one or other of the following methods:

Suprapubic	44 cases
Perineal incision	11 ,,
Urethral in women	9 ,,
Laparotomy	3 ,,
Sacral route	1 case
Vaginal route	1 ,,
Method not stated	6 cases
Total	75

The diagnosis of sarcoma of the bladder is very uncertain notwithstanding all modern methods of examination. The cystoscope cannot be relied upon to detect these tumours on account of their resemblance to carcinomatous growths, and because of the severe haemorrhage induced by the introduction of instruments into the bladder.

The only instance in which I have succeeded in diagnosing a sarcoma of the bladder, revealed by the cystoscope, was in a case where the tumour was secondary to "recurrent fibroid" elsewhere.

A man, aged 26, who had been operated upon several times for "recurrent fibroid," one on the knee, a second on the hip, and a third on the right lumbar region. When I saw him for the first time there were seven such tumours below the level of the waist, and one over the left shoulder in front. He complained of frequent and painful micturition, and had occasional attacks of haematuria. Cystoscopic examination revealed a rounded tumour on the anterior wall of the bladder. The surface was mottled bluish-red, and there was an irregular lozenge-shaped pale blue patch almost in the centre; over the surface there was a large number of small capillaries. The mucous membrane was deeply injected and the vessels dilated. In the circumstances an operation was deemed inadvisable, but a section of the tumour *post mortem* showed it to be a round and spindle-celled sarcoma.

Here the diagnosis was facilitated by the circumstances that (*a*) the tumour occupied the anterior wall of the bladder; (*b*) the mucous membrane covering the growth was intact; (*c*) haemorrhage was comparatively trifling; and (*d*) sarcomatous growths elsewhere were present. As a rule, the diagnosis can only be made by an exploratory incision.

Beyond the good effected by palliative measures to lessen the pain of retention little can be done in the way of treatment. A number of radical operations have been suggested and practised, but the results have not been encouraging. Sarcoma being an infiltrating tumour, by the time it comes under the eye of the surgeon no cure can be looked for from any operation which is not radical, consequently total extirpation of the bladder has been advocated, and has been performed in a considerable number of cases, but, as I shall show immediately, out of 69 operations we have only 3 instances of permanent cure. The cases in which a radical operation are indicated are very few.

1. The patient must have good general health, and strength to undergo a severe operation.
2. In the prostate the tumour must be still encapsulated, in the bladder it must be limited in extent, and there must be no evidence of metastatic deposits in glands or other organs.
3. There must be no ureteral obstruction, and the renal functions must be active and healthy.

In sarcoma of the prostate, so long as the tumour remains encapsulated, as it was in the case above described, prior to the accident, complete extirpation through the perineum may be possible. In fact, in this case, if the tumour had been diagnosed while the capsule was intact, the case would have been just the most suitable for a radical operation, but when the capsule was ruptured and the prostate had become infiltrated, it passed beyond remedy. For example, Socin, in 1894, removed through the anus and rectum, without injury to the urethra or bladder, a large encysted sarcoma, and the patient showed no evidence of recurrence three years thereafter.

In sarcoma of the bladder, as in primary growths in the prostate, as soon as the diagnosis is made the question arises, Is it advisable to remove the tumour? Many surgeons argue that, considering how rapidly the disease leads to a fatal issue when operative aid is withheld, together with the agony endured from retention, a suprapubic drain should certainly be established for the sake of the immediate relief given, and that if the indications are favourable, complete excision of the tumour, or even cystectomy, may be considered; in view of the very unfavourable results obtained up to the present time the latter operation cannot be recommended.

Statistics of 69 Cases in which the Results were stated (Munwes).

Survived for a few days	21 cases
Deaths a few weeks after	11 ,,
Apparently cured for a short time	13 ,,
Cures followed by recurrence	15 ,,
No data	6 ,,
Permanent cures	3 ,,
Total	69

Rafin collected 30 cases of excision of the bladder with a mortality of 56.6 per cent., and of those who survived only two are recorded as permanently cured.

The only operation which prolongs life and gives immediate relief to suffering, at the same time involving no additional danger, is a suprapubic drain. On account of the haemorrhage following its employment the use of the catheter is contraindicated.

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[1] J. Bland-Sutton, F.R.C.S., Cassell and Co., London, fifth edition, p. 278. [2] *Trans. Amer. Surg. Assoc.*, vol. xxv, p. 213 et seq. [3] *Zeitschrift für Urologie*, vol. iv, No. 11.

THE Boston *Medical and Surgical Journal* of December 19th says that, according to estimates made by American public health services based on reports from States and cities where accurate records are kept, between 300,000 and 350,000 deaths were caused by influenza in the United States since September 15th. Public health officials believe that these figures are conservative. In the camps of the United States influenza has been responsible for about 20,000 deaths, and 3,500 men who died of the disease on their passage across the Atlantic were buried at sea.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ACUTE NEPHRITIS FOLLOWING INFLUENZA.

DURING the recent pandemic of influenza our chief attention has been given to the prevention of pneumonia, but on November 5th another sequel was brought to my notice in the form of three cases of acute nephritis. I think it wise to examine carefully the urine of those patients who are obviously worse than the majority of those infected, since a warning may thus be received. At the outset the symptoms of influenza and acute nephritis are somewhat similar, both having a sudden onset, a feeling of chilliness, pain in the back, and occasionally nausea and vomiting, but there is no doubt of the diagnosis when, as a rule, within twenty-four hours puffiness of the face and eyelids and sometimes ankles leads us to examine the urine.

Case 1.—M. E., aged 10 years, female. Attack of influenza November 2nd. On November 5th, headache, backache much increased. Nausea, vomiting, and extreme pallor, in contradistinction to flushed face of influenza. Urine, 10 oz. in twenty-four hours, specific gravity 1025; acid, smoky, albumin, blood, epithelial tube casts. Face, eyelids, back of hands, legs and ankles oedematous. On November 8th patient more restless, persistent vomiting; uraemic convulsions and death on November 9th.

Case 2.—S. W., aged 14 years, female. Attack of influenza November 2nd. On November 5th, general puffiness, with intense headache and vomiting. Patient sleeps nearly all day. Urine, 17 ounces in twenty-four hours, specific gravity 1026; acid, albumin, epithelial granular tube casts. Headache and vomiting improved, and after November 9th urine increased in amount and gradually returned to normal. Recovery.

Case 3.—H. M., aged 3 years, female. Attack of influenza November 2nd. On November 5th, headache, vomiting, puffiness of face, and pallor. Urine, 10 ounces in twenty-four hours, specific gravity 1028; acid, albumin, blood, and casts. Urine became less daily, and headache, vomiting, and oedema increased. On November 9th there was suppression of urine, photophobia, dyspnoea, uraemic convulsions, and death.

In each case the attack of influenza was severe, with high temperature and intense myalgic pains, the urine containing a copious amount of urates; on the fourth day the urine of acute nephritis was passed. After the fourth day the temperature in no case was high or constant. Treatment consisted in limiting fluids and proteins, giving thin gruels and fruit juices for the first two or three days, followed in the case that recovered by junkets, custards, and vegetable soups. In each case a simple diaphoretic mixture was prescribed, with hot wet packs. Rectal injections of 40 grains of potassium bromide and 20 grains of chloral did not control the convulsions.

I think the above cases are of interest, since all occurred in females under 15 years of age and all started on the fourth day of an attack of influenza. Chronic nephritis is a more common sequel of influenza than acute nephritis. The cases show the importance of examining the urine during epidemics such as these.

Wrexham. A. LLOYD DAVIES, M.B.

A CASE OF INTRAPERITONEAL TRAUMATIC RUPTURE OF THE BLADDER.

TRAUMATIC rupture of the bladder is by no means a common injury, and when it occurs is very apt to be overlooked. This is particularly the case when the rupture is intraperitoneal and unassociated with other injuries, such as fractured pelvis, etc., which serves to focus attention on the bladder. The following case may be of interest:

Sgt. M. was admitted on July 20th, 1918, suffering from retention of urine and hypogastric pain but with no evidence of shock. The catheter did not afford much relief and the urine contained blood. The lower abdomen was rigid and tender to pressure. There was very little to indicate the nature of the lesion until the history of the illness from its onset was thoroughly investigated. It appeared that on the evening before admission the patient was spending a convivial evening with some friends. After indulging in a certain amount of beer he attempted to go downstairs to pass urine. At the top of the stairs he tripped and fell headlong, and then found that he was unable to urinate. With this history a provisional diagnosis of rupture of the bladder was made. He was catheterized just before operation, and it was highly disconcerting that a large quantity of urine was obtained, as this did not seem to accord with the diagnosis of ruptured bladder. However, it was possible to explain it on the supposition that the point of the catheter had passed through the rent in the bladder into the peritoneal cavity, or that the rent was temporarily closed by omentum. I opened the abdomen through the sheath of the right rectus. The peritoneal cavity contained blood-stained urine. With the patient in the Trendelenburg position the rent in the bladder was readily discovered on the postero-superior aspect. The hole, which easily admitted a finger, was closed with catgut, and rendered secure by a layer of Lembert sutures. A large drainage tube was placed in the pouch of Douglas, and, in addition, the bladder was drained for a few days by a catheter in the urethra. The urine remained alkaline for some time but eventually became normal under the effect of urotropine. There was no further complication, and the patient was discharged to his unit on September 24th.

In cases of intraperitoneal rupture of the bladder the rent is usually on the postero-superior aspect. Some authorities attribute the frequent occurrence of the rupture at this site to compression of the bladder against the sacral promontory, but the most likely explanation is the scarcity of muscular fibres at this point of the bladder wall. Whatever the explanation, it is providential that it should occur at a point which is fairly accessible to the surgeon.

To judge from the mortality rate, intraperitoneal rupture of the bladder is a grave injury. Without operation the death-rate is given at 98 per cent. Approximately about 50 per cent. of cases recover if operated upon. As might be expected, the more prompt the operation the better the prognosis. Attempts at confirming the diagnosis by distending the bladder with boracic lotion or gas are of doubtful value and may cause considerable harm by setting up sepsis.

GEORGE BLAIR, Capt. R.A.M.C.

Hill House Hospital, Minster, Ramsgate.

Reports of Societies.

TESTS OF PHYSICAL EFFICIENCY.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, held on January 10th, the President, Lieut.-Colonel E. W. GOODALL in the chair, Lieut.-Colonel MARTIN FLACK, C.B.E., read a paper on some simple tests of physical efficiency.

Colonel FLACK described in detail five tests extensively employed by him in the Royal Air Force—namely: (1) The pulse rate at rest, sitting, standing, and after the subject had raised his body weight the height of a chair five times in fifteen seconds, together with the length of time of return to the normal standing rate; (2) the length of time the breath could be held before and after exercise; (3) the measurement of the vital capacity by means of a modified gas meter; (4) the expiratory pressure recorded on a mercury manometer; (5) the length of time the subject could maintain an expiratory pressure of 40 mm. of mercury after full expiration and full inspiration, and the response of the pulse during this effort. The standards of these tests had been worked out on selected successful flying officers, and a considerable body of statistical evidence was produced showing that success in these tests, particularly the last, was closely correlated with efficiency as flying officers; officers judged on quite other grounds, whether military or medical, to be good pilots passing the tests well, while the great majority of failures would have been definitely rejected by the tests. Colonel Flack emphasized the opinion that the tests revealed some cause of ill success, the exact nature of which would need clinical investigation and might vary from individual to individual, that he was not advocating the stereotyping of a routine examination or suggesting that any such routine would replace clinical observation. He thought that the tests, with suitable modifications of standards, might have a field of usefulness wider than the Air Force and be applied in connexion with studies of physical efficiency and fatigue in industry as well as in school clinics.

Sir R. DOUGLAS POWELL, in opening the discussion, remarked that although he could not discuss the technical details of Colonel Flack's work he was impressed by the importance of the tests and the probability that their generalization to other classes would give valuable information.

Dr. LEONARD HILL, F.R.S., observed that it was very gratifying to him to see the way in which pure physiological work had been adapted to practical ends by the

logical development of the ideas suggested by such work as that on the influence of gravity upon the circulation and on the effects of oxygen inhalations.

Dr. Henry Head, F.R.S., thought that the fundamental importance of Colonel Flack's work resided in the development of a method which would rapidly separate from the mass those individuals whose condition stated generally was unsatisfactory, so that the necessarily limited time of the investigator might be used to the best advantage in analysing the causes of unfitness.

Brigadier-General Hearson, C.B., said that from the administrative aspect it was gratifying to think that the method would reduce the margin of uncertainty in classification dependent upon individual opinion.

Sir Walter Fletcher, F.R.S., thought that Colonel Flack's researches provided one of many object lessons upon the need of strengthening the alliance between physiology and clinical medicine.

Captain M. Greenwood pointed out the concordance between Colonel Flack's and Dr. Head's views as to the significance of the tests and those of the experimental psychologists who had worked out the doctrine of a common general factor, and said that a statistical investigation would probably aid in determining the relative values of the tests from that point of view.

GYNAECOLOGICAL TUMOURS.

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland held on November 22nd, 1918, with the President of the Academy in the chair, Dr. Bethel Solomons showed a specimen of sarcoma of the cervix which he had removed from a woman aged 50. She had been married twenty-six years, had eleven children, the youngest of whom was aged 11. She complained of a feeling of "womb falling" after the birth of her last child, but the symptoms vanished until fourteen days before she consulted him. On examination a mass about the size of a large grape fruit filled the vagina, and was found to have a distinct connexion with the posterior lip of the cervix, with which it was incorporated. The tumour was removed, and as the cervix was hypertrophied it was amputated. Pathological examination revealed the growth to be a spindle-celled sarcoma, with a large amount of hyaline degeneration of the capillaries, forming a kind of cylindroma. Dr. Solomons performed Wertheim's hysterectomy, and the convalescence was without incident. The uterus on examination proved to be normal. He commented on the silent growth of the tumour, with absence of symptoms which was typical of these rare cases of primary sarcoma. He thought that a radical hysterectomy should always be done in this class of case.

Dr. Wigham described the pathology of the specimen. He thought that the sarcoma, although malignant, was, if one might call it so, a benign form of sarcoma.

Dr. Purefoy remarked on the rarity of sarcoma limited to the cervix uteri; he could only recall one case similar to the one just described. In it a large sloughing mass distended the vagina and vulva, and hysterectomy was performed, but death ensued from sepsis. In very young subjects myxosarcoma was sometimes seen springing from the cervix in the form of numerous small cysts, but its removal was generally followed by recurrence. Notwithstanding the pathologist's opinion, he was inclined to regard Dr. Solomons's case as one of uterine fibroid showing sarcomatous degeneration.

Sir William Smyly showed two tumours of the mesentery removed from a patient in the Adelaide Hospital. She had a large cystocele, which protruded through the vulva, and caused much difficulty in emptying the bladder. On examination a tumour was discovered in Douglas's pouch, which was supposed to be ovarian. After performing an anterior colporrhaphy the abdomen was opened and the tumour, which was exceedingly friable, was drawn out of the abdomen, and found to be intimately connected with the intestine. A second tumour was discovered higher up in the mesentery. The tumours, which were supposed to be malignant, were removed with about two feet of the ileum and a large piece of mesentery, and the severed gut restored by a side-to-side anastomosis. The patient made an uneventful recovery.

Captain Speares, who had examined the specimen, said it was impossible to come to a definite conclusion as to the nature of the main mass of the tumour. The edges were tuberculous, but the central portion was so necrotic that it was impossible to diagnose the condition.

AFTER-TREATMENT OF STUMPS.

At a meeting of the West London Medico-Chirurgical Society on January 10th, in the Society's Rooms, West London Hospital, the President, Lieut.-Colonel E. M. Wilson, in the chair, a paper was read by Major W. McAdam Eccles, M.S., R.A.M.C.(T.), on stumps and their after-treatment. The lecturer stated that probably never before in the history of the world had there existed so many human beings *minus* one or more limbs. "Congenital stumps" were due to failure of peripheral development. Acquired stumps might be either sound or pathological. Of the latter, painful, conical, and inflamed varieties of stumps were of prime importance. Painful stumps were due usually to bulbous nerve endings, or to implication of a nerve in scar tissue. Conical stumps resulted from retraction of soft parts, usually the outcome of sepsis, and persisted unless dealt with by reamputation. Inflamed stumps resulted from necrosed bone, septic ligature, or other foreign body in the tissues, and the cause must be removed after *x* raying. Major McAdam Eccles then dealt with the results he had seen of Bulgarian and other foreign surgery in double primary amputations, and commented upon various forms of temporary and permanent artificial limbs, contrasting those required for the upper extremity with those for the lower. The usefulness of an artificial limb depended on the man's mental ability and the kind of work that he proposed to do subsequently. The results of kinematization were stated to fall short of expectations.

The paper was illustrated by lantern slides, and was discussed by the President and Mr. Muirhead Little, who said that 15,000 stump cases had passed through his hands at Roehampton in the past three and a half years. In his experience bulbous nerves were common in the earlier cases, but were now infrequently met with. He advocated the early use of fibre pegs, and said that double amputation below the knee had been common, with remarkably good results.

Other speakers were Sir Robert Armstrong-Jones, Dr. Rickard Lloyd, Dr. F. G. Lloyd, and Dr. Sanguinetti.

Reviews.

WALTER JAMES DODD.[1]

Success always attracts, and when won against exceptional difficulties compels admiration; but success only becomes complete when the personality of the winner attracts the love of all about him. This, in a sentence, is the story of Walter James Dodd, the latest *x*-ray martyr. A London lad, who went, in 1879, at the age of 10, to Boston, he at first did odd jobs in offices and shops and then got a berth as janitor in the Harvard chemical laboratory. Studying chemistry and pharmacy in his spare time, he was appointed, in 1892, assistant apothecary at the Massachusetts General Hospital. One of his duties was to act as official photographer. With the discovery of the Roentgen rays Dodd began a study of the subject, and very quickly became an adept. As early as November, 1896, he began to pay the penalty with a severe dermatitis. In those days the serious effects of the rays were not known, and Dodd's case was one of the earliest to call attention to the gravity of the lesions. In July, 1897, the ulcers became so extensive that skin grafting was performed. In spite of much suffering and ever-increasing disability he kept at work and built up a great *x*-ray department at the hospital, and had a career of unusual success in private practice. He became one of the leading experts and writers on the subject in the United States.

In June, 1915, Dodd went to France with the Harvard unit, and exercised a wide influence in the hospitals of the Camiers district. His accurate technique, untiring enthusiasm and helpfulness were of the greatest value. As his biographer says, it was an illustration of the fact that it is human rather than the mechanical equipment that counts. During a visit to the Harvard unit the writer

[1] *Walter James Dodd: a Biographical Sketch.* By John Macy. Boston: Houghton, Mifflin, and Co. 1918.

was deeply impressed by his rare and winning personality. Th ugh suffering and much crippled he had an extraordinary capacity for work, and a contagious optimism that was a valuable asset in that uninviting spot. He had to return to Boston in the autumn of 1915. There were constant recurrences of the carcinoma, necessitating frequent operations, which he bore with uncomplaining heroism. Secondary disease of the lungs developed, of which he died December 18th, 1916. With many of the common virtues, industry, courage, and kindly humour, there was in addition a subtle charm of character which left a deep impression on all who met him, and he will live in minds made better by his presence. W. O.

THERAPEUTICS OF ARSENIC.

DR. RAVAUT has contributed an interesting number on the treatment of syphilis, malaria, and amoebiasis, to the well-known Collection Horizon.[2] In the first part, that devoted to syphilis, a good account is given of the most up-to-date treatment. Eight arsenical injections and forty-six mercurial are recommended during the first two months, and it is pointed out that the sooner the treatment is begun after the original infection, the better the chances of completely sterilizing the patient. The dangers of arsenical injections are duly considered; the author's experience is that the new salts, which have replaced the old salvarsan, are so much safer as to be practically devoid of risk.

In malaria, as in syphilis, the sooner treatment is commenced after the onset of symptoms, the better the chance of permanent cure. Abrami's doses, which are recommended (3 grams or 45 grains a day), are larger than those usually given by English workers (30 grains a day). Some of Abrami's cases manifestly were not followed up long enough for accurate statistics to be founded on them. In chronic malaria, called by the author *paludisme secondaire*, the importance of combining quinine with arsenic is properly insisted upon. Most physicians who have had experience of this disease have used this method for years.

The suggestion that arsenicals should be used in amoebic dysentery does not rest on any such sound basis as their employment in the two diseases just dealt with. There is no proof that arsenic is in any way specific against *E. histolytica*, and though in chronic cases of dysentery its general tonic action may be beneficial, there does not seem to be any great justification in using it in ordinary acute cases of the disease. Ravaut's cases have not been followed up long enough to determine whether they were really cured—that is, completely sterilized of the amoebae. Results as good as his with the combined treatment could have been produced by one or other of the emetine methods alone. Ravaut calls attention to the chronic resisting type of case, which apparently is not influenced by any form of treatment; more work on this very important matter is urgently required. Bacterial dysentery and diarrhoeas of different varieties are not dealt with in the book.

PURIFICATION OF RURAL WATER SUPPLIES.

IN *Rural Water Supplies and their Purification*[3] Sir A. C. HOUSTON's object is to show the intelligent country householder how he can purify almost any water supply to any standard of safety required. We fear that the author is unduly optimistic as to the amount of time and thought that the average individual will give to the subject, and even the reader who has had a training in elementary chemistry will require to study this little book with the interest of an enthusiast to avoid mistakes. The author's main aim is to indicate how 10 gallons of water each day can be purified by the use of excess of lime, chlorine, alum, etc. The book is concerned chiefly with non-filtration processes of water purification, and the writer, as a pioneer in the use of lime and chlorine for this purpose, is able to give facts and figures drawn from a rich experience. The practical sanitarian will, however, ask himself whether Sir Alexander Houston has not taken too narrow a view of the problem, and whether it would not be better to improve the whole supply at its source by structural alteration of the filtration plant, etc., rather than every day to treat 10 gallons in a cistern.

After all, water for ablution and washing purposes will require to be rendered innocuous, and, in part, this will be effected by heat. It would seem, therefore, that the average individual would find it simpler, safer, and cheaper to boil the water required for drinking rather than to provide himself with the reagents, burettes, balance, indicators, etc., required to treat scientifically the water with chemicals. The author does indeed state that sterilization by means of heat "from the point of epidemic water-borne disease" has no equal, and is applicable to every kind of water, and he would have done well to discuss the method at greater length, and to compare it with the others as regards simplicity, cost, and efficiency.

One lays down the book with the feeling that water purification, which can be easily accomplished by communal and collective effort, presents great difficulties to the individual. The work will be very helpful to all confronted with this problem, whether they be laymen or experts. It is an advantage to have the conclusions of a distinguished leader like Houston available in a handy little volume.

[2] *Syphilis, paludisme, amibiase.* Traitement initial et cure de blanchiment. By Paul Ravaut. Préface du Professeur Fernand Widal. Collection Horizon. Paris: Masson et Cie. 1918. (Cr. 8vo, pp. vii+88. Fr. 4.)

[3] *Rural Water Supplies and their Purification.* By Sir Alexander Cruikshank Houston, M.B., D.Sc., F.R.S.Ed., Director of Water Examination, Metropolitan Water Board. London: John Bale, Sons, and Danielsson, Ltd. 1918. (Demy 8vo, pp. xv+136; 19 figures. 7s. 6d. net.)

NEW YEAR HONOURS.

THE following is a continuation of awards for valuable services in connexion with the war:

C.B.E.

Colonel William George Beyts, A.M.S., Assistant Director of Medical Services, Bombay Division.

Dr. Henry Hallett Dale, F.R.S.

Dr. Alfred Eichholz, Senior Assistant Medical Officer, Board of Education.

Dr. Samuel Lyle, Commissioner of Medical Services, Ministry of National Service.

Lieut.-Colonel Ellacott Leamon Ward, I.M.S., Inspector-General of Prisons, Punjab.

O.B.E.

Dr. Alexander M. Elliot, Head Quarters Medical Examiner, British Red Cross Society.

Dr. Alfred C. Ferguson, Commandant and Medical Officer, Thirsk Auxiliary Hospital, Yorkshire.

Dr. John Temperley Grey, Donor and Medical Officer, Stanmore House Auxiliary Hospital, Lenham.

Dr. Robert William Johnstone, Commissioner of Medical Services, Ministry of National Service.

Mr. John Reuben Lunn, F.R.C.S., Commandant, "The Cecils" Auxiliary Hospital, Chappell Croft, Sussex.

Dr. Hugh Allan Macewen, Medical Inspector, Local Government Board.

Mr. Frank Cole Madden, F.R.C.S., Senior Surgeon, Kasr-el-Ainy Hospital.

Captain Lionel E. C. Norbury, Surgeon, British Red Cross Hospital, Netley.

Major David Valentine Rees, T.D., Operating Surgeon, Brecon and Builth Auxiliary Hospitals.

Dr. Edward Coleridge Roberts, J.P., Senior Medical Officer, Grovelands Auxiliary Hospital, Southgate.

Major Charles S. de Segundo, V.D., Deputy Commissioner of Medical Services, Ministry of National Service.

Dr. Prideaux G. Selby, Medical Officer, Auxiliary Hospital, Sittingbourne, Kent.

George Robert F. Stilwell, Medical Officer, Balgowan Auxiliary Hospital, Beckenham, Kent.

Lieut.-Colonel Frank S. C. Thompson, I.M.S., Superintendent, Presidency Jail, Bengal.

Dr. George M. Winter, J.P., Chairman Torquay Food Control Committee.

M.B.E.

Dr. John Adams.

Dr. Wm. Stacey Aslett, Medical Officer, Knighton Auxiliary Hospital, Leicestershire.

Dr. Wm. Baigent, Officer in Charge, Northallerton Auxiliary Hospital, Yorkshire.

Dr. George S. Brock, British Red Cross Hospital, Italy.

Dr. James Culross, Medical Officer in Charge, Newton Abbot Auxiliary Hospital, Devonshire.

Dr. George Hoyle, Commandant, The Plains and Brooksbank Auxiliary Hospital, Elland.

Dr. H. F. Powell, late Transport Officer, Cheltenham Group of Hospitals.

Dr. James Simcock, Assistant County Director for Heaton Chapel Division, Lancashire Branch, British Red Cross Society.

Dr. John C. Smyth, Commandant and Medical Officer, Fairfield Auxiliary Hospital, Malvern.

Dr. John Wallace, Commandant, Ashcombe House Auxiliary Hospital, Weston-super-Mare.

Honorary Member of the Civil Division.—Dr. Ali Effendi Fahmi El Shiati, Principal Medical Officer, Benha Hospital, Soudan.

British Medical Journal.

SATURDAY, JANUARY 18TH, 1919.

THE MACHINERY OF GOVERNMENT.

The report of the Machinery of Government Committee[1] presented to the Minister of Reconstruction is a State document of more than usual importance. Incidentally it touches many matters of direct interest to the medical profession which call for careful consideration. We can now refer only to its general scope.

The Committee was appointed in July, 1917, to inquire into the responsibilities of the various departments of the Central Executive Government, and to advise in what manner the exercise and distribution by the Government of its functions should be improved. The British Constitution, which has served as the model for many others, is nevertheless unwritten, and this fact, though it has sometimes been a source of weakness, has more often been an advantage, since the constitution has retained the character of a living organism constantly adapting itself to changes in the environment. One of the weaknesses—which has become very apparent during the last generation—has been the multiplication of ministries and departments to suit the convenience of the moment. The Committee lays down the general principle that the distribution of departmental duties should be made according to the nature of the service to be rendered to the community as a whole, and not according to the interests of comparatively small classes. The application of this principle—that the machinery of Government should be organized in relation to the kind of service which each part yields—has led the Committee to recommend ten main departments of work; the first is finance, the second and third national defence and external affairs, the fourth research and information, the fifth production, transport and commerce, the sixth employment, the seventh supplies, the eighth education, the ninth health, and the tenth justice.

The chief conclusion and recommendation of the Committee is that "further provision is needed in the sphere of civil government for the continuous acquisition of knowledge and the prosecution of research, in order to furnish a proper basis for policy." Adequate provision has not been made in the past for the organized acquisition of facts and information and for the systematic application of thought as a preliminary to the settlement of policy and its subsequent administration. In the spheres of military and naval affairs the need for intelligence work is fully accepted, and two departments—the Board of Education and the Local Government Board—have made separate provision for intelligence work, the first as long ago as 1895, when its office for special inquiries and reports was established; the intelligence department of the Local Government Board was only organized in 1914, although work of this nature has been done on a considerable scale for many years by the medical department.

It is recognized that each Ministry requires its own intelligence department to conduct special inquiries into matters affecting the business of the department, to make a continued study of methods of administration in other parts of the British Empire and in foreign countries, to circulate in the department statements bearing upon administration, and to maintain a departmental library. But the Committee is very definitely of opinion that there is need of intelligence and research services outside the organization of any particular administrative department, and available to all departments. The organization of the Public Record Office and the development of the Government Chemists Department are instances of such central intelligence departments. Science, it is well said, ignores departmental as well as geographic boundaries; the harvest of results is won for the benefit of the administrative departments as a whole. But the Committee is careful to insist that the expansion of intelligence research work for general use would not conflict with the view that all departments which have already made distinct provision for intelligence work should continue to do so, and that many which have not might do so with advantage. The Committee holds that most departments must continue to provide themselves with the organization for the collection and collation of statistical material acquired in the course of administration, and that many departments must retain under their own control a distinctive organization for the prosecution of specific forms of inquiry so that the Minister may possess the means of instituting a competent, swift, and self-contained inquiry to enable him to deal with any specific administrative problem.

The Committee which expresses these views was strong on the administrative side; its chairman was Viscount Haldane, and among its members were such experienced civil servants as Sir Robert Morant and Sir George H. Murray, formerly Permanent Secretary to the Treasury. The application of the principles it lays down may have a profound effect on the conduct of the nation's business during the period of reconstruction and long after.

[1] H.M. Stationery Office. (Cd. 9230.) 6d. net.

THE FUTURE OF THE R.A.M.C.

The future of the Army Medical Service is a matter of deep concern to all who have at heart the welfare of the British soldier and the progress of British military medicine. The peace establishment of the Royal Army Medical Corps is still an unknown quantity, and must remain so while war conditions prevail, and, indeed, until after peace is concluded, when only will it be possible to determine the magnitude of the naval and military forces which must be maintained by each nation to ensure the peace of the League of Nations. It is not, however, too soon to consider now the principles upon which the selection and promotion of the permanent officers of that corps will be based. In an article on this subject printed last spring, when the war was going badly, it was our contention that the enemy successes on the Western front were no ground for delay in the institution of reforms at home. With the formal declaration of peace in sight there is more reason than ever for insisting that the time is at hand to place the Army Medical Service on a sounder footing as a scientific organization.

The object, to fulfil which a military medical service exists, is to maintain effective for military action against the enemy the largest possible proportion of the nominal roll of the forces. This proposition will not be disputed, but, simple as it is, its application involves a complex organization. A military medical service must institute and carry out measures for the

prevention of disease, the treatment of the sick, and the collection and treatment of the wounded, including the prevention of wound diseases. Whether on a war or a peace footing, it must furnish in good working order a system by which the medical personnel of all grades is very thoroughly trained for these duties. While it thus occupies itself with the application of knowledge already acquired to the needs of the forces at the moment, it must also be diligent in the acquisition of fresh knowledge to render existing methods of prevention and treatment more effective. Thereby it is not only fulfilling its primary duty to the soldier or sailor and the country of which he is a citizen, but is contributing to the general stock of knowledge. The soundness of this principle has been recognized by those responsible for the policy pursued with regard to the Army Medical Service. The need for research into the causes of diseases, and their prevention by attention to general sanitary principles and by the use of vaccines, has been fully appreciated; the fine laboratories of the Royal Army Medical College, Millbank, are evidence of good intentions in respect of research, and from them have already come many important contributions to knowledge.

But we fear it must be said that under existing conditions excellence in medical research and clinical work does not meet with its due reward in the Army Medical Service, and that for an officer to engage in one or other of these directions is to enter a blind alley so far as concerns his prospects in his own service. We are quite aware that certain army medical officers who have taken to work of this kind have reached high rank, but the status in the army of medical officers of scientific attainment has not always corresponded with the position they have achieved in the world of science. This we conceive to be a serious defect in the existing system, and if we apply the same test to distinction in clinical work the case is even worse. The fact seems to be that if an army medical officer designs to attain the highest ranks in his service he must abandon clinical or research work in order to attain promotion through what has come to be the "usual channel." It ought, we conceive, to be possible to make such alterations in the rules or customs of the service as will ensure that an officer who has attained distinction as a surgeon, a physician, a pathologist, or a bacteriologist, should be able to feel confident that he will not be passed in the race for promotion by those who have abandoned these difficult spheres of work for the relatively easy task of administering hospitals or Divisions. We hold it to be a real misfortune for the future of the R.A.M.C. that under existing conditions so many of its ablest officers are tempted to leave the scientific and clinical side for the administrative side because the latter is the straight path to promotion.

There is one very good reason why this matter should be gone into now: if discussion be deferred until the permanent officer strength of the Royal Army Medical Corps is laid down, it may be too late for effective reform. Already a considerable number of young medical men serving temporarily in the R.A.M.C. have been offered and granted Regular commissions, as the extracts from the *London Gazette* published in the SUPPLEMENT have shown. The question we feel obliged to ask is, Upon what principle have these officers been chosen during the war by the army medical authorities? Unless we are misinformed, the answer is that military attributes, such as gallantry, leadership, and efficiency in minor administrative posts, have counted above scientific and clinical ability. We fully admit the value of soldierlike qualities in the officers of a military organization, but to recruit a medical corps on that basis and without at least equal regard to professional attainments would be unfortunate.

We believe that as long ago as 1916 medical officers serving temporarily were invited to apply for permanent commissions in the R.A.M.C. and that a number were chosen on the recommendation of their superior officers. We understand that the invitation was repeated at the close of last year, and the terms then announced are printed at p. 88. It is beside our present purpose to offer criticism of these terms, though, as a correspondent points out this week, the fourth paragraph seems to operate unfairly by withholding the gratuity of Special Reserve and Territorial medical officers who join the Regular R.A.M.C. We raise the matter now in order that a sounder method may prevail in the selection and promotion of permanent officers; for "the life of the execution of affairs resteth in the good choice of persons."

TESTS OF GENERAL FITNESS.

WE publish elsewhere in this issue a summary of the discussion in the Section of Epidemiology and State Medicine of the Royal Society of Medicine initiated by the paper read by Lieut.-Colonel Martin Flack, R.A.F., on tests of physical efficiency. A number of points were brought out which suggest fruitful lines of research and are worthy of general notice. The salient feature is this: certain tests based upon physiological reasoning and designed to explore particular physiological functions have been found to differentiate broadly those fit to perform duties involving great physical and mental strain from those who, for a great variety of reasons, are not fit. The significance of the tests is not altogether what *a priori* reasoning had suggested. Failure to respond adequately is not a proof that some clear-cut lesion exists, but may be a consequence of a generally imperfect co-ordination of organic activities, a condition which need not be permanent and may yield to appropriate treatment. We have here an illustration of the need to keep constantly in mind the principle of organic correlation. The interplay of causes is especially complex because an element of failure to respond is sometimes a lack of resolution—that is, a psychological condition—and we have to deal with the question whether some facet of the "common general factor" which the studies of Professor Spearman and his associates have done so much to reveal in psychological performances, is not illuminated by the ostensibly physiological tests of Colonel Flack. Their practical importance gains rather than loses by the discovery that what is tested is not simple, although that discovery indicates that the performance of the test is not a *terminus ad quem*, but a *terminus ab quo*, further investigation must start. Critics who have imperfectly studied the subject make play with the notion of a mechanical method of determining fitness. Such an idea has never been entertained by those who understand the tests and their practical application. What has been claimed is that the method achieves the object of a preliminary sorting, a valuable result enough in the hurry of war conditions, still more valuable perhaps when the comparative leisure of peace time will be ample to allow of detailed clinical investigation in suitable cases, but not nearly sufficient to permit of all subjects being examined meticulously. These conclusions have been reached through a study of Air Force material, but, as Colonel Flack and other speakers urged, their applicability is much wider. We seem to be on the threshold of a general inquisition into the physical efficiency of the nation, or at least of that great subdivision engaged in industrial pursuits. If this comes about it will mean the employment of numerous investigators, not all of whom can be gifted

with scientific imagination, or possess great technical skill. It is not, however, too much to hope that quite ordinary persons armed with a simple technique may be able to make a classification of types which will be of much value, and provide a suitable starting point for finer work.

CEREBRO-SPINAL FEVER IN HONG KONG.

The report of an investigation into an epidemic of cerebro-spinal fever in Hong Kong, undertaken at the request of the Colonial Government by Lieutenant P. K. Olitsky[1] of the Rockefeller Institute, is interesting, especially in connexion with some of the problems of the disease under consideration in this country. Up to June 1st there were during 1918 in Hong Kong 1,041 reported cases, almost all in natives, with a computed mortality, for the first 1,000 cases, of 76 per cent.; but as many cases escaped detection, the real mortality was lower. From the records of 417 cases in the Tung Wah Hospital it appears that the age incidence varied between four months and 59 years, the average being 22.7 years, and that males were attacked rather more than twice as often as females. In a chart of the first 750 cases, collected by Dr. Gale, the Medical Officer of Health, the peaks of the curve of incidence are from infancy to 5 years of age and at 17½ years, the latter especially for males, so that the susceptible elements of the population were clearly children and young adult males. The epidemic was preceded by an outbreak of influenza and sore throat of no great severity. Examination of the meteorological records shows that a sudden fall of temperature was followed in about four days by a great increase in the number of cases reported, thus agreeing with the general opinion, as emphasized by Sophian and Dopter; it shows also that with a rising temperature there was usually a diminution in the epidemic. Deficiency in sunlight was followed by an outburst of the disease, but there was no evidence that humidity or rainfall by themselves had any bearing on the number of cases. These conclusions do not agree with the results obtained from investigation of an outbreak near Dorchester by Compton,[2] who found that the conditions favouring invasion of the blood stream by meningococci were a high degree of saturation of the atmosphere with moisture and very little variation in the daily temperature with a fall in the barometric pressure, rain, and lack of sunshine. According to Olitsky cold increases the incidence of the disease by exaggerating overcrowding among an already dense population, who then abandon sleeping in the streets and literally swarm in the cubicles of the Hong Kong houses; he is in agreement with Captain J. A. Glover[3] as to the paramount importance of overcrowding, and points out that, although it was rare for more than one member of a family to be attacked, the cases occurred in the overcrowded areas of Hong Kong. Certain Chinese habits—promiscuous expectoration, the use of common drinking vessels and roller towels, and the failure to cleanse the plates between their use by customers in eating houses—also favour the spread of disease. Bacteriologically 95 per cent. of the patients examined were infected with Gordon's Type I, and the serums available in the colony, with the possible exception of one, were deficient in antibodies. Among 71 patients treated with these serums the mortality was 45 per cent., and among 104 patients treated neither with lumbar puncture nor serum the mortality was as high as 84.6 per cent. As blood cultures were positive in 4 out of 10 moribund patients, the intravenous as well as the intrathecal injection of serum is advocated. The recommendations for prophylaxis include education of the Chinese, the prevention of overcrowding, the detection and treatment of contact carriers, including the isolation of those carriers who harbour numerous meningococci (especially those of the same type as the patient's), the discharge of patients and carriers after three examinations of throat swabs at five-day intervals have been negative, and, although it is still in an experimental stage, the use of preventive inoculations of antimeningococcic vaccine.

[1] Laid before the Legislative Council by command of His Excellency the Officer Administrating the Government, October 17th, 1918. Hong Kong: 24 pages.
[2] A. Compton, *Ann. de l'Inst. Pasteur*, Paris, 1918, xxxii, 111.
[3] J. A. Glover, British Medical Journal, 1918, ii, 509.

IMMANUEL KANT ON INFLUENZA.

Although the term influenza was not formally adopted by the Royal College of Physicians of London till 1782, the disease was known to Hippocrates and other ancient physicians, and a formidable list of epidemics in various parts of the world between the years 1173 and 1875 is given by Hirsch in his *Handbook of Geographical and Historical Pathology*. Records of outbreaks in this country between 1510 and 1837 were collected by Theophilus Thompson and published by the Sydenham Society in 1852; they were brought down to 1891 by E. Symes Thompson. Many physicians, among them such men as Sydenham (1675), Huxham of Plymouth (1729), Arbuthnot (1732), Sir George Baker (1762), and John Fothergill (1775) had written about the disease from the clinical point of view, but Immanuel Kant, who, like Bacon, took all learning for his province and was specially interested in medicine, was one of the first to direct attention to its epidemiology. Towards the end of the eighteenth century influenza swept over nearly the whole world. It reached Siberia and Russia, China and India, in the autumn of 1781, and in the following December and February it invaded successively Finland, Germany, Denmark, Sweden, England, Scotland, the Netherlands, France, Italy, and Spain. Kant, in a "Notice to Physicians" published in the lay press of Königsberg on April 18th, 1782, considered the disease in its relation to physical geography. He expressed the opinion that it was spread not only by atmospheric conditions but by infection conveyed by insects. The paths of communication between Europe and other parts of the world by sea and by caravan were, he thought, the means of conveyance of many diseases, and he found reason to believe that the Russian trade route to China by land had brought several kinds of harmful insects from the farthest East. The epidemic of 1781–82 spread along the Baltic coast till it reached Königsberg; thence it travelled to Danzig and Prussia. Kant's interest in influenza is shown by the frequency with which he refers to the subject. With the object of procuring further information he sent his "notice" to Russia, and from Baron von Asch, surgeon in the Russian army, he learnt that in January, February, and March, 1782, a disease described as "febris catarrhalis epidemica benigna" prevailed in the Russian capital. It originated in Eastern Siberia, on the Chinese frontier, and spread through the whole of Russia.

POST-GRADUATE COURSES IN LONDON.

A meeting, held on January 9th at the house of the Royal Society of Medicine, to promote the objects of the Inter-Allied Fellowship of Medicine, was informed that the proposal to establish immediately in London a course for medical graduates had been well received by the staffs of the medical schools, and that it was hoped that through the co-operation of the several schools it would be possible to institute at an early date a course lasting three months. Major-General Foster, C.B., Director-General Canadian Army Medical Services, and the representatives of other Dominion medical corps, expressed cordial approval of the suggestion, which, they said, would meet the desires of many medical officers of their services now in England or about to visit this country on their return from service in France. It was explained that these officers would be prepared, and would, in fact, prefer to pay a fee for the course. We hoped to be in a position to publish details in this issue of the Journal, but we understand that arrangements are not yet sufficiently advanced to permit this to be done.

PENSIONS FOR MOTHERS.

AMONG the many schemes that are on foot for the future betterment of the community there are few that present more difficulty than that which is to provide for the encouragement of motherhood, and for its partial endowment especially in the case of widows. A very interesting report[1] has lately been presented to the Local Government Board by the head of its intelligence department, giving a detailed account of the rise and progress of this movement in the United States, to which we have already referred in our issue of May 26th, 1917, p. 692. During the last ten years the subject has been widely discussed, and from the vast amount of literature published certain deductions can be made. The broad principle has been generally accepted throughout the States, and in very many it has been translated into action, but without any uniformity of method. Starting with the axiom that it is better that children should be brought up by their own parents than in institutions, the plan gradually took the form of boarding children at home instead of boarding them "out." Thence followed a system of regular pensions to the mothers, granted only after careful inquiry, and not as a right to all. During the year 1917 such pensions were being paid in thirty-five out of forty-eight States. The actual amounts have varied very considerably, but in every case a maximum has been fixed, and the recipients, mostly widows, have been required to submit to continued inspection and supervision. This work has involved the formation of an army of trained inspectors as "visitors," and these have had to be adequately paid, so that the cost of administration would appear to have reached, if it has not overpassed, the total amount given in relief. Without such skilled supervision, however, it was found that illegal practices were apt to creep in, and hence curtailment of working expenses proved to be a false economy in the long run. Many carefully considered arguments have been urged for and against some of the systems of inquiry and distribution. In practice it would seem that the pensions are chiefly allotted to widows or to wives whose husbands are in some way incapacitated from supporting them, and it is generally made clear that, although selection is made of the most deserving, the pension, when granted, is not to be regarded as a charitable dole. Alternative schemes have been put forward whereby selection might be eliminated and a system of general insurance substituted for it, and it is evident that the experience thus far gained is by no means universally convincing. The report is full, and deserves careful study on the part of every one who may be contemplating local or central legislation on the subject.

[1] Mothers' Pensions in the U.S.A. Local Government Board. 1918. H.M. Stationery Office. Through any bookseller, 2d.

SIR CHARLES WYNDHAM.

SIR CHARLES WYNDHAM, who died on January 12th in his 82nd year, is a striking example of a man who turned at an early age from medicine to attain conspicuous success in another calling. He was the most accomplished British actor in the comedy of society of his time, and delighted more than one generation by his grace of mind and carriage, his lightness of touch, his elegance of diction and his sure grasp of the essentials of a character. His intellectual capacity would have won him distinction in any profession. His versatility and knowledge of men and the world owed something to the circumstances of his education, in Scotland, in Germany, and in London. He was born in Liverpool, the son of a medical practitioner named Culverwell, who during his son's boyhood practised in London. Charles Culverwell was from the first enamoured of the stage, but the father's influence kept him to his medical studies at King's College sufficiently closely to ensure his passing the examination for the Membership of the Royal College of Surgeons of England in 1857. In 1858 he obtained the College Licence in Midwifery. He appears to have attended the School of the Royal College of Surgeons in Ireland and the School of Anatomy in Dublin. In the *Medical Directory* for 1860 he appeared as M.R.C.S. 1857, L.M. and L.S.A. 1858, and M.D.Giessen (exam.) 1859. A motive that may have stimulated his keenness to obtain a medical diploma was an ardent desire to serve in the American civil war. He went to America, and after several disappointments was appointed surgeon in the Federal army. He was present at the battles of Chancellorsville, Fredericksburg, and Gettysburg, and served through the Red River campaign under General Banks. He had always had a strong inclination for the stage and found opportunities during the winters of the war to play in New York as "Charles Wyndham," under which name he was to become so widely known. He returned to England in 1865 and gradually won for himself a leading place on the comedy stage. He went to America in 1869 with a repertory including *The School for Scandal*, in which he gave an inimitable presentation of Charles Surface. He first established himself as an actor manager in London in 1875, and his shrewd judgement and accomplished business management made him one of the most successful managers of his day. He gave up management in 1910, and gradually retired from the stage; during the last few years he had been in declining health. When in 1902 King Edward conferred upon him the honour of knighthood, it was felt to be a due recognition of a position attained by a combination of genius and hard work.

THE STATISTICAL STUDY OF INFLUENZA.

WE have been favoured with a copy of the report of a strong committee of the American Public Health Association upon the measures requisite to secure adequate tabulation and analysis of the data furnished by the influenza epidemic. The committee contemplates a complete survey of the data of the States in which registration statistics are available, and its recommendations as to the particulars which should be tabulated and the kind of analysis needed well deserve the attention of official vital statisticians in this country. We have no doubt, indeed, that similar action is contemplated here, although difficulties in securing the requisite staff are greater than in the United States. The committee also resolved to secure the co-operation of the naval and military authorities—a very desirable step. We understand that in England the medical research department of the Royal Air Force is already engaged in formulating a method of utilizing the sickness returns of the force to elucidate the epidemiology of both summer and autumn outbreaks; owing to the wide distribution of Air Force stations these data will be of particular value.

THE INFLUENZA EPIDEMIC IN INDIA.

THE *Times of India* of October 26th, 1918, contains a report of an interesting speech by Dr. Turner, Health Officer of the Bombay Municipality, on the ravages of influenza. From June 1st to 15th the daily mortality of the city was normal, 80 to 90; it suddenly began to increase on June 19th, reaching 230 on July 3rd; it declined to normal about July 22nd. The secondary rise began on September 12th, the mortality exceeded 730 on October 2nd; it began to decline on October 8th, and had fallen to 184 by October 22nd. The incidence rate in the summer epidemic was about 25 per cent. on Europeans and 33 per cent. on Indians employed in offices, mills, etc., but it was much lower upon the outdoor labour staff of the Health Department, being well below 10 per cent. Returns were obtained from employers of labour relating to a population of 100,000 in the first epidemic. The sickness rate was 29 per cent.; of these cases 1,640 died. The excess mortality for five weeks of the second epidemic was 13,277. Bombay was not so severely attacked as some other cities. Poona registered 210 deaths on September 30th, which would have been equivalent to 1,830 in Bombay where 768 deaths were actually recorded. In Nagpur for the week

ending October 14th the mortality-rate (reduced to an annual rate per mille) was 430.8, the worst week in Bombay similarly expressed showing 257.17. From a more recent issue of our contemporary we gather that by the first week of December the Bombay mortality-rate had fallen to the normal level, the total deaths for that week amounting to 590, an annual rate per mille of 31.32.

THE Hunterian Oration will be delivered before the Royal College of Surgeons of England at 4 p.m. on February 14th by Major-General Sir Anthony A. Bowlby, K.C.M.G., K.C.V.O., C.B., A.M.S.

THE French Académie des Sciences has elected Major-General Sir David Bruce, K.C.B., F.R.S., to be a foreign correspondent in the Section of Medicine and Surgery. The election was made at the first scrutiny, when Sir David Bruce received 26 out of 32 votes.

HAVING completed twenty years' service on the full staff of St. George's Hospital, Sir Humphry Rolleston, K.C.B., has, according to the regulations, ceased to be physician. Instead of automatically becoming consulting physician, which up to the present time has been the unbroken rule, the house committee of the hospital, on the recommendation of his colleagues, has appointed him Emeritus Physician for his lifetime, with the privilege of using cases in the wards for clinical teaching.

A SPECIAL CLINICAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

London, April, 1919.

THE customary annual meeting of the British Medical Association for the discussion of clinical and scientific subjects has not been held during the last four years. The war began immediately after the annual general meeting at Aberdeen in July, 1914; it had been arranged that the meeting in the following year should take place in Cambridge under the presidency of Sir Clifford Allbutt, Regius Professor of Physic in the University. The immense strain upon the medical profession produced by the war rendered it inadvisable to attempt to hold an annual meeting in 1915, and the University of Cambridge was so denuded of staff and accommodation that it would have been unable to maintain the invitation, even if it had been considered wise to hold a meeting at all. The question of when the next annual general meeting should be held has been under consideration since the suspension of hostilities, but Sir Clifford Allbutt has been compelled to say that Cambridge would not be able to arrange for a meeting to be held there this summer, as it would be hopeless to expect university work to be in going order so soon. He was, however, able to add that Cambridge looked forward to entertaining the Association in 1920. In these circumstances the suggestion arose that a special meeting might be arranged by the Association this year for the discussion of clinical and scientific subjects, but on a smaller scale as to sections than at a fully organized annual meeting.

This suggestion was cordially approved by the President, and at a meeting at the house of the Association on January 14th he was able to lay the proposition before the Director-General of the Army Medical Service and representatives of the Medical Service R.N., of the Air Force Medical Service, of the Medical Services of Dominion Forces, and of the United States. With Sir Clifford Allbutt at this meeting were the Chairman of Council, the Chairman of the Representative Meeting, and the Treasurer. Sir Clifford Allbutt, in opening the proceedings, said that the British Medical Association, in common with other scientific bodies, felt that the time had come to relay old tracks and make plans for reconstruction, but he added that for the reasons already mentioned it had not been considered advisable to hold a full-dress meeting this year. The suggestion that a short scientific meeting should be held this year in London, without any attempt at a large organization or elaborate entertainments, had much to commend it. The idea was that the opportunity should be taken to set forth the work done during the war, and that every effort should be made to secure the presence of the leaders of medical and scientific work in the forces before they returned to civilian duties in different parts of the world.

Dr. J. A. Macdonald, Chairman of Council, said that the main object of such a meeting would be to bring together British workers at home and from the Dominions and medical visitors from the United States, to garner the knowledge and ideas from those who during recent troubled years had studied war medicine and surgery from many points of view. The independent criticisms of overseas workers would be particularly helpful and stimulating. The object of the meeting was to obtain the views of those best acquainted with the circumstances as to the feasibility of holding such a meeting, and as to the most appropriate date.

Lieut.-General Sir John Goodwin, K.C.B., D.G. A.M.S., expressed the opinion that it was most desirable that such a congress should be held. A great amount of scientific work of the highest value had been done during the war, and the results obtained were now being analysed. It would be an immense advantage for the cards to be put on the table, so that what had been done could be examined by all. In this way knowledge would be furthered, and the water-tight compartments between individual workers and groups of workers might be broken down. He undertook that all possible facilities should be given to assemble research workers from the forces overseas. It was reported that a letter had been received from Lieut.-General Sir C. H. Burtchaell, K.C.B., D.G.M.S., France, stating that the proposal had his entire sympathy, and that he would be glad to co-operate in any way which might be in his power.

Colonel A. M. Whaley, United States liaison medical officer with the War Office, welcomed the idea most heartily on behalf of the American medical officers serving in Europe. Surgeon Commander D. W. Hewitt, C.M.G., A.D.G. R.N., said that Sir William Norman, the Medical Director-General, R.N., was much interested in the proposal, and desired to promote it in every way; and Colonel C. T. M. de Crespigny, D.S.O., A.A.M.C., Colonel R. D. Rudolph, C.A.M.C., and Lieut.-Colonel Bernard Myers, N.Z.A.M.C., spoke on behalf of the Australian, Canadian, and New Zealand Army Medical Services, in support of the project, which, they said, would strongly appeal to Dominion medical officers. All were agreed that such a meeting would be of the utmost value in crystallizing the knowledge gained during the war. In view of the approaching departure of many medical officers, the opinion was expressed that the meeting should be held as soon as possible.

Colonel J. G. Adami, C.A.M.C., agreed with Sir Clifford Allbutt that the main feature of the meeting might well consist of general reviews of the work done and its results, followed by discussions. Lieut.-Colonel T. D. Barry, R.A.F., who represented the Medical Administrator of the Royal Air Force, supported the opinion that the meeting should take place early, on the ground that the workers were now full of their subjects, and their experience was still fresh in their minds.

It was provisionally agreed that the meeting should be held early in April, and should last two or three days. A General Committee was appointed, together with two subcommittees, one to make general arrangements and the other to draft a programme of scientific work. Letters approving the proposal have been received from Sir William Osler, Regius Professor of Medicine, Oxford, and Major-General Sir Robert Jones, C.B., Inspector of Special Military Surgery.

THE WAR.

THE HARVARD SURGICAL UNIT, 1915–19.

THE Harvard Surgical Unit, whose active work in France has just been brought to a close, may be said to have had its origin in a conversation between Sir William Osler and Mr. Robert Bacon, formerly U.S. Ambassador to France, which took place in December, 1914. The original unit, under the leadership of Dr. Edward H. Nickols, was organized in the medical school of Harvard University, and arrived in France early in July, 1915; soon afterwards, by arrangement with the British Army medical authorities, it took over No. 22 General Hospital at Camiers, one of the large base hospitals which had been erected in the Etaples area. It was originally intended that the work should be carried on after the first three months by relays of surgeons from one or two other American universities, but owing to unforeseen circumstances this idea was given up, and Harvard alone continued to be responsible. The unit was organized on the pattern of a base hospital in the British regular service. The officers did not receive commissions, but relative rank was given according to the duties they were to perform.

In November, 1915, on the arrival of the second party of surgeons from Harvard, the hospital moved into winter quarters at Wimereux, but early next year it was back again at Camiers, near its former site, between the railway and the foot-hills, where it remained until the end. An interesting account of the experiences during this period was given by Dr. David Cheever, at that time the chief surgeon, in a chapter of *The Harvard Volunteers in Europe*,[1] in which there are many references to the cordial co-operation and good feeling between the British medical service and the members of the unit. Dr. Cheever's successors were Dr. W. E. Faulkner, Dr. Hugh Cabot, and Dr. Daniel F. Jones.

During the battle of the Somme in 1916 the unit for the first time got really busy. Up to the end of that year its position was that of a neutral medical unit under the terms of the Geneva Convention, the administrative officers and the "other ranks" alone being drawn from the R.A.M.C. In December considerable changes were made. The President and Corporation of Harvard University resolved to continue the unit for the period of the war, and requested the British military authorities to notify it as a belligerent medical unit. Temporary honorary commissions in the R.A.M.C. were given to officers enlisting for the duration of the emergency. In this way the unit was put on a more stable basis and its position was regularized. The entry of the United States into the war in April, 1917, had a somewhat unsettling effect on the status and personnel of the hospital, but within a few months the staff had settled down again as a harmonious party of Americans, Canadians, and British, with Lieut.-Colonel Cabot as Commanding Officer. During that year the hospital got through a tremendous amount of hard work. Its full nominal capacity was 2,370 beds, but the patients at one time numbered as many as 4,000. Besides their work at the base the members of the medical staff were given many opportunities for gaining experience and lending valuable aid in other parts of the war area. Almost every officer went up the line—some went in surgical teams, others in medical "chest" teams, and there was scarcely ever a time when members of the staff were not scattered over France serving temporarily in one or other kind of medical unit of the British army.

In the winter of 1917–18 a great many hernia operations were done, under local anaesthesia, in order to render soldiers fit for general service. From August, 1918, onwards a large amount of experience was gained in the practice of delayed primary suture of wounds at the base, more especially in cases of compound fractures of the arm and hand. Notes were kept of the first thousand patients thus treated by primary suture more than forty-eight hours after being wounded, and material was obtained for comparative analysis of the results. More than 85 per cent. of the cases healed by first intention. Colonel Cabot and his staff were among the first to obtain sanction for the routine employment of women anaesthetists. Nursing sisters were selected for courses of instruction in anaesthesia, and for the last two years all the anaesthetics of the hospital were administered by women. Members of the staff had a considerable share also in effecting the introduction of blood transfusion as a working method of resuscitation.

When the end of hostilities came into sight steps were taken to disband the Harvard Unit early. On January 8th the entire medical and nursing staff left Camiers, and crossed to England on their way home to America. It is one of the coincidences of war that the unit first took over No. 22 General Hospital on July 16th, 1915, and that the official date of demobilization should be January 16th, 1919—precisely three and a half years afterwards. During the past week Colonel Cabot, with his 21 medical officers and 108 nursing sisters, have been in London, and the occasion was taken to entertain them at a dinner given on January 15th, at the Connaught Rooms, by the Inter-Allied Fellowship of Medicine, in recognition of the splendid work they have performed. Beyond the practical aid given to some 175,000 British sick and wounded, the Harvard Surgical Unit has contributed in no small measure towards that Anglo-American unity upon which we believe the happiness of the world will in large measure depend. We therefore share the hope expressed by Colonel Cabot that the Harvard unit will not disappear now that its working days are over, but that it will survive in some permanent form as a landmark in the progress of the English-speaking fellowship of medicine.

[1] BRITISH MEDICAL JOURNAL, May 12th, 1917, p. 623.

CASUALTIES IN THE MEDICAL SERVICES.

ARMY.

Died on Service.

CAPTAIN J. BURKE, R.A.M.C.(S.R.).

Captain John Burke, R.A.M.C.(S.R.), died of typhus at Baghdad on December 21st. He was the son of the late Mr. Edward Burke of Crewe, was educated at the London Hospital, took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1917, and entered the Special Reserve of the R.A.M.C. in the same year, being promoted to captain on April 17th, 1918.

CAPTAIN W. F. LUTON, C.A.M.C.

Captain W. F. Luton, Canadian Army Medical Corps, was reported as having died on service, in the casualty list published on January 6th.

CAPTAIN J. S. MARTIN, R.A.M.C.

Captain J. S. Martin, R.A.M.C., was reported as having died on service, in the casualty list published on January 4th.

CAPTAIN J. J. SINCLAIR, R.A.M.C.

Captain J. Johnston Sinclair, R.A.M.C., died on November 14th after an operation. He graduated M.B., Ch.B. Glasg. in 1909, and subsequently took the D.P.H.Camb. He held resident posts at the Victoria Infirmary, Belvidere Hospital, and Gartnavel Asylum, Glasgow. He also served for a time in Yardley Road Sanatorium, Birmingham, and later was assistant medical officer of health at Southport. He joined the R.A.M.C. with a temporary commission on December 16th, 1914, and with the exception of a few months at the start was in France continuously.

DR. I. W. JOYNT.

Dr. Ivor William Joynt, resident civil surgeon of the 3rd London General Hospital, Wandsworth, died in that hospital on December 30th. He was the only surviving son of Lieut.-Colonel H. W. Joynt, R.A.M.C.(ret.), of Bournemouth, and was educated at St. Bartholomew's Hospital, and at Cambridge, where he graduated B.C. in 1913. After acting as clinical assistant in the West End Hospital for Nervous Diseases, and as second house-surgeon in the Royal London Ophthalmic Hospital, he took up the post in the 3rd London General Hospital which he held at the time of his death.

DR. D. K. PARKES.

Dr. Douglas Kenneth Parkes, late Captain R.A.M.C., died at Knockaloe prisoners of war camp, Isle of Man, on January 3rd. He was educated at Liverpool University,

where he graduated M.B. and Ch.B. in 1914, and had served in Egypt, Gallipoli, Salonica, and Mesopotamia, in the R.A.M.C., from which he retired last July, on appointment to the Knockaloe camp.

Wounded.

Captain G. A. Khan, I.M.S. (temporary).
Lieutenant A. J. Abreu, I.M.S. (temporary).

Repatriated.

Major A. M. Wood, R.A.M.C. (temporary).
Captain W. M. Christie, R.A.M.C. (temporary).
Captain A. G. Clark, M.C., R.A.M.C. (temporary).
Captain S. A. Forbes, R.A.M.C. (temporary).
Captain C. C. G. Gibson, R.A.M.C. (temporary).
Captain J. A. Gilfillan, R.A.M.C. (temporary).
Captain D. M. Smith, R.A.M.C. (temporary).
Captain D. F. Torrens, R.A.M.C.(T.F.).
Lieutenant A. S. Findlay, R.A.M.C. (temporary).

HONOURS.

THE following awards are announced to medical officers in recognition of their conspicuous gallantry and devotion to duty in the field:

Bar to D.S.O.

Lieut.-Colonel Anson Scott Donaldson, D.S.O., 3rd Field Ambulance, C.A.M.C.

This officer was in charge of the evacuation of the forward area and showed great initiative in establishing dressing stations and collecting posts directly in rear of the advancing infantry. He kept in touch with the battalion and succeeded in evacuating the casualties almost as soon as they occurred, in spite of heavy machine-gun and shell fire. (D.S.O. gazetted June 3rd, 1918.)

Lieut.-Colonel Thomas Joseph Francis Murphy, D.S.O., 6th Field Ambulance, C.A.M.C.

During an attack there were several wounded cases whose evacuation was being held up by the intense enemy barrage. This officer then brought up two motor ambulances, which he left some distance in rear, and came up with his runner to the village and searched for the regimental aid post, which he found after much difficulty, all the time exposed to heavy fire himself, as he passed several times through the enemy barrage and machine-gun fire. It was through his utter disregard of personal danger that the wounded were safely cleared and many lives saved. (D.S.O. gazetted January 1st, 1918.)

D.S.O.

Major John Charles Campbell, 7th Field Ambulance, A.A.M.C.

This officer was in charge of stretcher-bearers, evacuating all wounded from the right sector of the advance throughout five days' fighting. He kept close behind the infantry and kept in touch with the various medical officers under constant heavy fire. One night a direct hit completely demolished his aid post, but he got his men to a place of safety and continued the evacuation of the wounded. He superintended the work for five days continuously with great courage and persistence, setting a fine example to all under him.

Captain (acting Lieut.-Colonel) Thomas Henry Scott, M.C., 14th Field Ambulance, R.A.M.C.

When the vicinity of his advanced dressing station was being heavily shelled, it was due to his coolness and able management that a number of stretcher and walking cases were evacuated quickly and smoothly. His foresight and organization were mainly responsible for the very large numbers of officers and men successfully evacuated during this period under most difficult conditions.

Captain (temporary Major) William Duncan Sturrock, R.A.M.C.(T.F.). (Salonica.)

When the main surgical ward and operating tent of a field ambulance were wrecked by shell fire, one officer and two other ranks being wounded, he very quickly put matters right, and, owing to the excellent arrangements made by him throughout the operations, the wounded, in spite of difficult country and lack of roads, were very rapidly collected and evacuated.

Major (acting Lieut.-Colonel) George Grant Tabuteau, No. 1 Field Ambulance R.A.M.C.

In supervising the evacuation of casualties during three days' operations under heavy shell fire, he maintained a chain of medical posts in close touch with the battalions of his brigade, and the rapid removal of the wounded was due to his coolness and untiring energy, which inspired his officers and men with confidence.

Second Bar to Military Cross.

Temporary Captain (acting Major) John Samuel Levis, M.C., 51st Field Ambulance, R.A.M.C.

During an attack, when the regimental aid posts were under direct enemy observation, this officer, approaching them over ground swept by machine-gun fire, made arrangements for the wounded to be evacuated by a safer route. He was indefatigable in the day in keeping touch with the aid posts as they moved forward, and during the night took stretcher-bearers up to the front line to search for wounded. (M.C. gazetted January 26th, 1917; bar gazetted July 25th, 1918.)

Captain (acting Major) Campbell McNeil McCormack, M.C., 15th Field Ambulance, R.A.M.C.

During various attacks this officer supervised the collecting of wounded over a large part of the divisional front. He closely followed the advancing troops with his stretcher-bearers, evacuating the wounded skilfully and speedily. On one occasion during a retirement he personally under heavy fire reconnoitred the ground where the wounded lay, and by his dispositions of the stretcher-bearers undoubtedly saved their lives and the lives of many of the wounded. (M.C. gazetted September 22nd, 1916; bar gazetted October 15th, 1918.)

Temporary Captain Charles Gordon Timms, M.C., R.A.M.C., attached 7th Battalion Royal Fusiliers.

During a counter-attack this officer went forward from battalion head quarters and effected several rescues of seriously wounded men, conducting them personally to the lines. Throughout the week's fighting he worked night and day, and the manner in which he disposed of stretcher cases under heavy fire was admirable. (M.C. gazetted July 18th, 1917; bar gazetted July 26th, 1918.)

Bar to Military Cross.

Captain William James Dowling, M.C., R.A.M.C.(S.R.), temporarily attached to 142nd Field Ambulance.

He was in charge of stretcher-bearers during very heavy fighting lasting for two days, and repeatedly went forward to satisfy himself that the regimental aid posts were being kept clear. On many occasions he himself led forward stretcher squads under very heavy fire. He invariably displayed great gallantry, and afforded a magnificent example to all ranks working under him. (M.C. gazetted December 2nd, 1918.)

Captain (acting Major) John Cecil Alexander Dowse, M.C., R.A.M.C., attached Head Quarters 63rd Division.

This officer controlled the evacuation of wounded from the whole of the divisional front under artillery, machine-gun, and rifle fire, and their rapid and efficient evacuation was due to his untiring zeal and energy in maintaining constant communications between battalions and field ambulances. He set a splendid example to all ranks. (M.C. gazetted January 14th, 1916.)

Captain Hugh Hart, M.C., No. 5 Field Ambulance, C.A.M.C.

During an action this officer was in charge of the field ambulance stretcher-bearers. His work under very heavy machine-gun and shell fire was characterized by thoroughness and a clear and concise idea of the situation at all times, which was due to his keeping in close touch with the rapidly advancing infantry. On this and other occasions he cleared all casualties with exceptional rapidity. His courage and tireless persistence were a source of inspiration to all under him. (M.C. gazetted July 18th, 1917.)

Lieutenant William Peat Hogg, M.C., I.M.S. (Mesopotamia.)

When his aid post was heavily shelled he collected all his casualties with great coolness and promptitude and conducted them to a new post. He has previously done similar fine work in action. (M.C. gazetted February 7th, 1918.)

Captain Joseph Regis Alberic Marin, M.C., C.A.M.C., attached 22nd Battalion Canadian Infantry, Quebec Regiment.

During three days' hard fighting he was indefatigable in his attention to the wounded, working often under heavy fire. He saved many lives by his skill and devotion to duty. When all the officers had become casualties, and he himself was wounded, he remained at duty and continued his good work. Later on he was severely gassed and had to be evacuated. The example of his self-sacrificing and gallant conduct had a great effect on the whole battalion. (M.C. gazetted January 11th, 1919. See p. 83.)

Temporary Surgeon Frank Pearce Pocock, D.S.O., M.C., R.N., attached Drake Battalion, R.N.V.R.

He attended to the wounded under very heavy fire and most adverse circumstances during operations lasting several days. His courage and self-sacrificing devotion to duty were a splendid example to his stretcher-bearers, and his skill was instrumental in saving the lives of many wounded men. (M.C. gazetted January 10th, 1917.)

Temporary Captain (acting Major) Maurice Aloysius Power, M.C., R.A.M.C., attached 148th Field Ambulance.

Whilst in charge of stretcher-bearers he attended to and collected wounded under heavy machine-gun fire. He worked unceasingly directing stretcher-bearers, and evacuated several hundred wounded from the regimental aid posts in his sector. Although wounded (for the third time) he remained on duty and showed great endurance as on previous occasions. (M.C. gazetted January 18th, 1918.)

Captain (acting Major) Cuthbert Scales, M.C., R.A.M.C., attached 150th Field Ambulance.

When in charge of stretcher-bearers he exposed himself continually, moving from place to place to collect the wounded under heavy machine-gun and rifle fire. Thanks to the close touch he kept with the battalions, several hundred wounded were quickly collected and evacuated. (M.C. gazetted July 26th, 1918.)

Captain (acting Major) Herbert William Wadge, M.C., No. 10 Field Ambulance, C.A.M.C.

This officer was in charge of the stretcher-bearers of the ambulance during five days' fighting. He worked continuously, directing the evacuation of the wounded in the forward area. Under his leadership the bearers worked strenuously, and the wounded were evacuated with great rapidity. Although considerably shaken by the explosion of a shell, he continued his work. (M.C. gazetted August 19th, 1916.)

Captain Thomas Walker, M.C., R.A.M.C.(S.R.), attached to 2/3rd London Field Ambulance.

He took a motor ambulance car to an advanced regimental aid post under very heavy shell fire and evacuated the wounded. Throughout the whole action he displayed great skill and disregard of danger in handling his bearers, and was night and day in the line, keeping touch with the regiments, under heavy shell fire. (M.C. gazetted November 4th, 1918.)

Temporary Captain Philip Hewer Wells, M.C., R.A.M.C., attached 2nd Battalion Coldstream Guards.

When moving up to an aid post with the battalion head quarters a shell fell on the party, causing many casualties, including the only other officer. Captain Wells, showing complete disregard for personal safety, organized the party and attended to the wounded. Throughout the day he ceaselessly carried on his duties, and under most trying conditions, being exposed to heavy shell fire the whole time. In spite of the number of wounded, he managed to attend to all and arrange for their evacuation. (M.C. gazetted February 18th, 1918.)

Military Cross.

Captain Sidney George Baldwin, No. 9 Field Ambulance, C.A.M.C.

Under his direction the wounded were dressed and removed from the battlefield without any delay. He often led his bearers through machine-gun fire to reach wounded men, whom he successfully evacuated. All through the fighting he displayed great disregard of danger.

Lieutenant Bawa Harkishan Singh, I.M.S. (Mesopotamia.)

For conspicuous gallantry and devotion to duty and coolness under fire when in charge of the dressing station of the ambulance. The dressing station came under heavy fire at night, and the situation was critical for a time. He, however, collected the wounded and brought them in. He also showed great coolness and initiative when the ambulance was bombed by aeroplanes during and after the attack.

Temporary Surgeon David Leishman Baxter, R.N., attached 1st Battalion Royal Marines.

During an attack he early established an aid post well forward, and continued to move forward with the advance, showing utter disregard of personal danger when searching for wounded and having them dressed under heavy fire. He caused all wounded to be rapidly evacuated, and throughout set a very fine example to his staff.

Captain Neil Douglas Black, C.A.M.C., attached 25th Battalion Canadian Infantry, Nova Scotia Regiment.

With absolute indifference to the heavy shell fire, this officer advanced with the leading companies and attended to the wounded. The second afternoon of the attack he advanced beyond the line under intense enemy machine-gun fire and dressed the wounded of other battalions. His coolness and example were a source of inspiration to officers and men.

Captain Tillman Alfred Briggs, C.A.M.C., attached 116th Battalion Canadian Infantry, 2nd C. Ontario Regiment.

During an attack he rendered invaluable assistance to the wounded of this and other battalions. He attended to a number of casualties in the jumping-off position in spite of heavy machine-gun and artillery barrage. Most of his dressers became casualties, but he continued to dress the wounded. As soon as he had attended to those he pushed forward across the open and assisted those who had fallen. His services were most valuable, and his work of a very high order. He displayed remarkable coolness and energy under fire.

Captain Herman Maclean Cameron, No. 3 Field Ambulance, C.A.M.C.

This officer performed valuable work in establishing a new advanced dressing station to conform with the advancing line, under heavy machine-gun fire and artillery barrage, working continuously for twenty-four hours without rest.

Temporary Captain Frederick Orlando Clarke, R.A.M.C., attached 149th Field Ambulance.

He attended to and evacuated the wounded from the forward area under heavy rifle and machine-gun fire. He worked on until every case had been evacuated, and set a splendid example of zeal and endurance to all ranks under him.

Temporary Captain Andrew Leslie Edmund Filmer Coleman, R.A.M.C., attached 2nd Battalion Scots Guards.

For conspicuous gallantry. He tended the wounded with tireless energy and devotion during operations. For two days and nights he never left his post, though subjected to continuous machine-gun fire and frequent bombardments of high explosives and gas. During this period a continuous stream of wounded poured in, both from his own and other units, and by his prompt attention and ceaseless hard work he undoubtedly saved the lives of many severely wounded cases.

Captain (acting Major) Frank Coleman, 6th London Field Ambulance, R.A.M.C.

He displayed conspicuous gallantry and devotion to duty at an advanced dressing station which was frequently under heavy shell fire and night bombing. He attended to and arranged for the evacuation of a very large number of wounded, and his skill and able organization were the means of saving several lives.

Temporary Captain Purser Davies, R.A.M.C., attached 6th (London) Field Ambulance, R.A.M.C.

He worked with little or no rest for sixty hours in the open under heavy fire, dressing and evacuating the wounded. His conspicuous example of gallantry and self-sacrificing devotion to duty were an inspiration to the stretcher-bearers, whose services he organized with great ability. He saved many lives by his skill.

Temporary Captain Trevor G. Featherstonhaugh, R.A.M.C. (Mesopotamia.)

While attending to the wounded and withdrawing them to cover he had constantly to move across ground exposed to fire. It was due to his ability and coolness that casualties were evacuated so expeditiously, thus preventing any hampering of the critical operation in progress at the time.

Temporary Captain John Finnegan, R.A.M.C., attached 7th Battalion Lincolnshire Regiment.

At one time, when the battalion was held up lining a bank, he continued to move up and down what was actually the front line, under enfilade fire, attending to and evacuating wounded of his own battalion and also of other divisions. By his disregard of danger for himself he saved numerous lives of others.

Captain David Dawson Freeze, C.A.M.C., attached Royal Canadian Regiment.

In an attack he displayed great courage in dressing wounded under heavy shell and machine-gun fire. He followed close up with the battalion in the attack and, in the most exposed position, he continued to dress the wounded and organize carrying parties, so that all the battalion casualties were evacuated in very short time. After the objective had been reached he proceeded in advance under heavy machine-gun fire, and dressed the wounds of a large number of the enemy and evacuated them. Learning that a number of men of another division were lying in front of our line, having been wounded two days previously, he proceeded under heavy fire, dressed their wounds, and supervised their evacuation. His devotion to duty throughout was admirable.

Temporary Captain Douglas Hugh Aird Galbraith, R.A.M.C. (Mesopotamia.)

He was wounded in the head whilst attending to a wounded officer, and, though in great pain, continued to carry out his duties for the remainder of the day with zeal and determination.

Captain Arthur Hines, C.A.M.C., attached 26th Battalion North Brunswick Regiment.

During an attack he went forward with the attacking waves, and on numerous occasions, in the open and in face of the heaviest shell and machine-gun fire, dressed the wounded. His utter disregard of danger was a constant source of inspiration to all ranks.

Temporary Captain Edwin Lancelot Hopkins, R.A.M.C. (Mesopotamia.)

For conspicuous gallantry and devotion to duty in dressing wounded under fire during a reconnaissance. He has on all occasions displayed great coolness and resource in carrying out his work.

Captain James Stewart Hudson, C.A.M.C., attached 1st Battalion Canadian Mounted Rifles.

He attended to the wounded under exceptionally heavy shell and machine-gun fire. He personally superintended the collection of wounded, and organized stretcher parties. His coolness and courageous conduct set a high example to all.

Captain Roy Bertram Jenkins, C.A.M.C., attached 24th Battalion Canadian Infantry, Quebec Regiment.

During two days' fighting this officer accompanied the troops and was tireless in attending to the wounded under heavy shell, gas, and machine-gun fire. As soon as the battalion had made good its line he established a rear aid post close up, where he received and evacuated wounded. Being exposed to fire himself, he arranged what cover was possible for the wounded and continued at work until he was sure that all had been cleared. He worked unceasingly, never thinking of himself.

Captain Alexander Johnstone, R.A.M.C. (Mesopotamia.)

He displayed the utmost energy and coolness in collecting, dressing, and evacuating the wounded under heavy fire. Through his untiring efforts 200 cases were disposed of in a very short time.

Temporary Captain James Gaymer Jones, R.A.M.C. (Mesopotamia.)

Although exposed to heavy and continuous shell fire throughout the day, he continued to dress the wounded in the gun line, thereby alleviating much suffering and saving many lives. His courage on all occasions has been most marked.

Temporary Lieutenant Ratenshaw Nariman Kapadia, I.M.S. (Mesopotamia.)

Exposed to heavy fire, he continued throughout the action to collect and dress the wounded, who were much scattered, thereby saving many lives.

Temporary Surgeon Charles Edward Leake, R.N., attached Hawke Battalion, R.N.D., R.N.V.R.

He was with the battalion during six days' incessant fighting, and displayed untiring devotion to duty, dressing the wounded under constant fire. His gallantry and coolness were a splendid example, and inspired the stretcher-bearers under his command to great efforts to evacuate all the wounded, which was accomplished with admirable care.

Temporary Captain Joseph Patrick McGreehin, R.A.M.C., attached 4th Battalion Royal Fusiliers.

While proceeding to assembly positions he was knocked over by a large piece of shell and badly shaken. Nevertheless he pushed on and established his observation post behind a bank. Unfortunately, unknown to him, it was in the vicinity of a water point, and was very accurately shelled all day and finally hit. In spite of this, he worked on with the greatest courage, dressing with care all the wounded, and in one case amputating a foot.

Captain Robert Dewar MacKenzie, C.A.M.C., attached 15th Battalion Canadian Infantry, 1st C., Ontario Regiment.

He dressed wounded under continuous shell fire, and kept moving his dressing station forward, so as to be able to attend to the more serious cases. He cleared the cases with the utmost dispatch, and many times during the day went up, under shell and machine-gun fire, to dress stretcher cases. His conduct throughout was deserving of high praise.

Captain Donald Campbell Malcolm, 8th Field Ambulance, C.A.M.C.

He was in charge of the bearer division in the left sector during the fighting. He showed great initiative and judgement at all times, keeping in close touch with the advancing troops, and clearing the wounded. He worked continuously for forty-eight hours searching for and attending the wounded in the open. On one occasion when the advance was delayed near a wood he led his stretcher squads across the open ground which was being swept by machine-gun fire and brought many wounded back to safety. He displayed the greatest coolness under fire and a perfect disregard for personal safety during the entire action.

Captain Joseph Regis Alberic Marin, C.A.M.C., attached 22nd Battalion Quebec Regiment.

During an attack he, through his prompt dressing of wounds under heavy shell and machine-gun fire, alleviated the sufferings of many wounded and saved the lives of some of the more seriously wounded. His fearless example had the best possible effect on the moral of the men. He worked with determination and cheerfulness for two days under very trying and dangerous conditions.

Temporary Captain (acting Major) Duncan Metcalfe Morison, 38th Field Ambulance, R.A.M.C.

When the infantry were ordered to attack at short notice he went forward through a heavy barrage and completed the necessary arrangements with the medical officer of the battalion for the evacuation of the wounded. His gallantry and devotion to duty ensured the wounded being rapidly cleared, and many lives were saved thereby.

Temporary Captain William Millerick, R.A.M.C., attached 10th Battalion Argyll and Sutherland Highlanders.

Hearing that there were a number of severely wounded cases in a village, which could not be moved until properly dressed, this officer at once went forward, and carried out his duties under heavy fire of every description. He continued his work untiringly throughout the day, and by his skilful organization of dressing and carrying parties was undoubtedly responsible for saving many lives.

Temporary Captain Frederick Harold Moran, R.A.M.C., attached 15th Brigade, R.F.A.

Throughout the operations of an advance he maintained his aid post practically at the battery positions, and dressed wounded of many units under heavy shell fire. He more than once passed through heavy barrage to get at and attend to wounded. His zeal and disregard of personal safety were splendid.

Captain Duncan Arnold Morrison, 1st Field Ambulance, Canadian A.M.C.

He accompanied the advancing infantry to the final objective, and though wounded himself remained on duty, continuing to do excellent work during two days' operations, establishing an advanced dressing station as soon as the infantry passed through. He behaved splendidly.

Captain Robert Davies Moyle, 2nd Field Ambulance, C.A.M.C.

He followed the infantry into the open while it was still under machine-gun fire. Owing to the condition of the ground it was impossible to get transport up, but he organized bearer parties, collected all wounded into a place of safety, and succeeded in securing dressings, food, and water for them, saving many lives. He set an example to all ranks under him.

Lieutenant (temporary Captain) William Douglas Newland, 92nd Field Ambulance, R.A.M.C.

Under conditions of open warfare he collected a number of wounded for evacuation. The place came under very heavy shell fire, due to a number of tanks passing close to his post. With great courage and devotion, he remained with the wounded until he was able to clear them all, although the fire was so heavy that all troops had to leave the immediate neighbourhood.

Captain Frederick McGregor Petrie, Canadian A.M.C., attached 31st Battalion Alberta Regiment.

This officer displayed great courage, coolness and devotion to duty under heavy fire and in most trying conditions. He showed great executive ability in the evacuation of wounded, and, although the casualties were very heavy, at no time was there any congestion at the regimental aid post. By his skilful organization and untiring energy, many wounded were evacuated during the operation.

Temporary Lieutenant George Fitzpatrick Rigden, R.A.M.C., attached 16th Battalion Lancashire Fusiliers.

He established a first-aid post well forward, and in spite of heavy machine-gun fire carried on his duties with admirable self-possession, several times going forward in face of intense fire to dress wounded lying in exposed positions. It was largely due to his unselfish devotion that some of the most serious cases received prompt attention. His courage throughout was most marked. Finally he was wounded.

Captain Lewis Wilson Shelly, R.A.M.C., attached No. 1 Aeroplane Supply Dépôt, R.A.F.

When this dépôt was heavily bombed in a night air raid he organized a dressing station at the Repair Park, attending the wounded in the open. Several bombs fell close to him, wounding those around him, but he stuck to his work and saved the lives of many by his coolness and courage.

Captain Charles Gordon Strachan, R.A.M.C.(T.F.). (Salonica.)

He worked for twenty-four consecutive hours across open ground which was constantly shelled. He rallied his bearers when somewhat exhausted and disorganized by heavy fire, and set them a very fine example of cheerfulness and complete disregard of personal danger. The successful evacuation of all wounded was largely due to his personal conduct.

Captain Roy Hindley Thomas, 1st Field Ambulance, C.A.M.C.

For superintending the evacuation of wounded when he went over the entire area, still under heavy fire, locating the wounded, and after dark succeeding in safely removing them all. His untiring devotion to duty, initiative in establishing collecting posts and organization of carrying parties, undoubtedly saved many lives.

The names of the following officers of the R.A.M.C. have been brought to the notice of the Secretary of State for War for devotion to duty and valuable services rendered by them when prisoners of war, during epidemics of cholera and typhus fever at the prisoners of war camps at Wittenberg, Germany: Majors W. B. Fry (since deceased), H. E. Priestley, C.M.G., and A. C. Vidal, D.S.O. Captains S. Field and A. A. Sutcliffe (both since deceased). Lieutenant (temporary Captain, acting Major) J. La F. Lauder, D.S.O., M.C.

FOREIGN DECORATIONS.

The following medical officers are among the recipients of decorations and medals conferred by the President of the French Republic for distinguished services rendered during the course of the campaign.

Croix de Guerre.—Colonel George W. Barber, C.M.G., D.S.O., A.A.M.C.; Major Frederick L. Wall, M.C., 7th Field Ambulance, A.A.M.C.; Brevet Major Lancelot G. Bourdillon, D.S.O., M.C., R.A M.C.; Captain (acting Lieut.-Colonel), George P. Taylor, D.S.O., M.C., R.A.M.C.; Captain (acting Major) Arthur P. Thomson, M.C., R.A.M.C.(T.F.); Captain Gilbert W. Rogers, M.C., R.A.M.C.(T.F.); temporary Captains (acting Majors): Daniel McKelvey, M.C., R.A.M.C.; Harold B. G. Russell, R.A.M.C.

Croix de Guerre avec Palme.—Colonel R. J. Blackham, C.M.G., C.I.E., D.S.O., A.M.S.

NOTES.

THE Elsie Inglis unit of the Scottish Women's Hospitals has once more gone forward, this time in the wake of the victorious Serbian army. The unit is within a few hundred miles of its Russian campaign with the Jugo-Slavs in the Dobrudja in 1916, but it has reached its present position coming from the Macedonian front via the Adriatic. The Serbians have placed a large building at the disposal of the unit at Sarajevo, where there are large numbers of sick soldiers to be tended. The transport column attached to the unit followed the offensive of last autumn as far as cars could go, and did almost incredible work in conveying wounded from the front to the hospitals, up and down the mountainous roads.

Scotland.

CHAIR OF MENTAL DISEASES AT EDINBURGH.

A SCHEME has been drawn up by the Board of the Royal Edinburgh Asylum for the Insane (Morningside) for the establishment of a chair of mental diseases in the University of Edinburgh, including the offer of an endowment fund of £10,000 towards the salary of a professor. The Court of Edinburgh University at its last meeting gave approval to this scheme.

ENDOWMENT OF THREE PROFESSORSHIPS IN GLASGOW UNIVERSITY.

At the meeting of the Glasgow University Court on January 9th, Principal Sir Donald MacAlister was in the happy position of being able to announce that two well known shipowners of Glasgow, Mr. W. Guthrie Gardiner and Mr. F. C. Gardiner, desired to endow three chairs in the university — one in bacteriology, one in organic chemistry, and one in physiological chemistry. It was their intention to provide £20,000 for each chair, or £60,000 in all. The Court's grateful acceptance of the handsome gift followed as a matter of course, as did the acceptance of the proposal that the new professorships should be named the "Gardiner chairs"; in these feelings the much larger body of medical and public opinion will heartily join.

It is to be hoped that what has occurred in Glasgow may not be limited to Glasgow. National thanksgiving for the successful issue of the great war may, and will, take several forms; but the endowment of greatly needed professorships in the newer departments of medicine makes a very special appeal to the imagination as well as to practical common sense of the band of potential princely donors which has formed during the progress of hostilities. The immediate medical needs of the country, especially in regard to the wounded men coming back more or less permanently disabled, have been quickly and nobly met by public and private grants and gifts, but the Glasgow merchants have looked wisely to the requirements of the more distant future when a far more persistent enemy than even the Central Empires—we mean disease and death—will still withstand the progress of scientific medicine and defy her trained battalions.

The endowment of the Glasgow chairs is sufficient to produce, at 5 per cent., a sum of £1,000 a year for each; and if this sum be drawn upon to provide the salaries of both a professor and an assistant or associate professor neither of these officials will receive dangerously high emoluments. One must not forget what Goldsmith said of the risk of opulence in universities, in his *Enquiry into the Present State of Polite Learning in Europe* (1759). He was talking with Gaubius of Leyden, who complained that "all the English students who formerly came to him now went entirely to Edinburgh; and the fact surprised him more, as Leyden was now as well as ever furnished with masters excellent in their respective professions." Gaubius concluded by asking Goldsmith if the professors of Edinburgh were rich. "I replied," wrote Goldsmith, "that the salary of a professor there seldom amounted to more than thirty pounds a year. 'Poor men,' says he, 'I heartily wish they were better provided for; until they become rich, we can have no expectation of English students at Leyden.'" At the present value of money the rewards offered to university teachers in Britain are hardly such as to lead to inefficiency by opulence and so to cause the transference of students to the universities of the Continent. "Authors," said Goldsmith again, "like running horses, should be fed not fattened"; and for "authors" one may read "teachers." Now the occupants of our university chairs may run no very serious risk of being "fattened," but there is a real danger that the teachers of subprofessorial rank may fall short of being sufficiently "fed." There is a sphere for the munificence of our merchant princes in the provision of adequate salaries for the younger men in the universities who for the love of science

and the fascination of teaching have deliberately put aside more remunerative posts in general practice or in the services.

Further, the endowment of universities must not outstrip the necessary extending and equipping of hospitals. The flow of benefactions to general hospitals at the present time is diminished as a whole, although there are exceptions. Edinburgh Royal Infirmary received in legacies and donations during 1918 the large sum of £40,500. Some classes of hospitals, however, have not in the past had the happy knack of unloosing the purse-strings of the wealthy donor. Maternity institutions, for instance, have not been fortunate, though on them depend not only an important part of the teaching of the undergraduate but also in no small measure the health and well-being of the population. Another department of medicine which ought to be considered favourably by the prospective donor is that of post-graduate teaching. If young graduates are to gain some at least of their special training in the British Isles aid must assuredly be given to the various bodies which are at present re-establishing the post-graduate work suspended when the war broke out, and not only of re-establishing but of extending and further developing it, making it suitable not only for the medical men who always require to be made acquainted with new methods and discoveries, but also for the men who were needed at the front as soon as they had graduated and who, consequently, were unable to avail themselves of the various posts in hospitals and other institutions at home usually held by them in normal times. It is gratifying to know that Government has it in mind that grants for the universities and other teaching bodies, including, it is to be hoped, post-graduate schools, are urgently needed; but in many directions there is room, and more than room, for the well-chosen benefactions of the merchant prince who has a love of science, an admiration of the healing art, and gratitude for the wonderful victory which has been vouchsafed to the nation's arms.

England and Wales.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held on December 19th, Sir Francis Champneys presiding. One midwife was struck off the roll on a number of charges of general breaches of the rules. Judgement was adjourned for reports in three and six months in another case, and in one case, as to which a final report had been received, a further period of probation was granted. In this case a patient of the midwife had died from septic poisoning following an illegal operation performed to procure abortion; the midwife's solicitor was of opinion that the engagement of the midwife had been merely a "blind" to cover the whole proceedings. An application for restoration to the roll was granted.

Draft rules were approved for submission to the Privy Council relating to:

1. The regulation of the payment of expenses incurred by members in respect of their attendance at meetings of the Board.
2. The conditions under which midwives may be suspended from practice in penal cases by (*a*) the Board, (*b*) the local supervising authority.
3. The rules requiring a midwife to notify the local supervising authority when she has advised artificial feeding.

The secretary, in his report on the recent examination, stated that a much higher percentage of the candidates had signified their intention to practise.

RABIES IN THE WEST OF ENGLAND.

The provisions made by the medical department of the Local Government Board for the administration of specific antirabic treatment at Plymouth were announced in last week's JOURNAL (p. 54). According to a statement made on January 14th at the Ottery Petty Sessions by an inspector of the Board of Agriculture, the situation is regarded as extremely serious by the authorities. More than 100 cases of rabies in animals have been confirmed in Devon and Cornwall during the present outbreak, and many suspected cases are under observation. Twenty-five persons have been bitten by rabid animals but no case of hydrophobia has been reported as yet. Arrangements have been made by the Local Government Board, with the co-operation of the Board of Agriculture, to secure the early notification to medical officers of health of persons bitten by animals suspected of suffering from rabies, and for their prompt treatment with antirabic material from the Pasteur Institute, Paris, by Dr. Pethybridge, pathologist of the South Devon and East Cornwall Hospital.

Correspondence.

ENDURANCE IN AORTIC INSUFFICIENCY.

SIR,—In respect of the letters of Colonel Rudolf and Sir William Osler on this subject may I say that in many, perhaps in most of these cases, death comes—as in the majority of cases of angina pectoris—by accident. The potential of the state is not worked out. The accidents are of more than one kind, but the mode is the same—a prolonged diastole. The distinction between the endocarditic (rheumatic?) and syphilitic series is, as Sir William says, cardinal. In my book on *Diseases of the Arteries* I have shown how in the syphilitic series the lesion begins about 1 cm. above the valve, and may or may not move downwards—as well as upwards—so as to invade the valve and the coronary arteries. Such syphilitic cases often do run out their capacity, because this is as shallow as the affection of the myocardium is deep. Yet many even of these graver cases are ended by accident—just too long a duration of bulbar anaemia.

On the nature of such accidents—for example, a sudden effort, a startle, some half understood inhibition, as after a full meal, a pipe of stronger tobacco—I need not stay to make guesses; but I would point out that a frequent mode is by extrasystole. The practical hint is that to these patients extrasystoles are very perilous. When in such an one, from this cause or that, a tendency to extrasystole is set up, however unprogressive the lesion of the valve or the state of the myocardium, sudden death is apt to occur. If a case of this syncope could be caught "on the hop" restoration of life might be possible.

I may add two cases of long duration. An academic friend of mine used to come to me every six months to have the dimensions of his heart outlined, and his local and general condition reported on—this for twenty-five years. The state, so far as clinical diagnosis and his own experience were concerned, seemed static. The damage had been done in an effort in rowing. Ultimately he began to have extrasystoles occasionally, and we did our best to provide against these. However one day, while feeling quite well, after lunch he lay down on a sofa to read the paper, and died in an instant. He had been climbing hills in Cumberland a few weeks before. The second case of duration was in a big strong man who came under me at various dates in Addenbrooke's Hospital for aortic insufficiency and failing heart. He died with the usual symptoms of heart failure: dilatation, dropsy, dyspnoea, etc. He had suffered from rheumatic fever seventeen years before; on discharge from hospital he returned to his work as a coal porter—about as hard labour as is to be found in the market; yet without any break he had followed this laborious occupation for those seventeen years. The heart (at necropsy) was of course big and dilated.—I am, etc.,

Cambridge, Jan. 13th. CLIFFORD ALLBUTT.

EXCISION OF A CARTILAGE IN MILITARY SURGERY.

SIR,—I have read with great interest Mr. Hammond's article on the operation for the excision of a cartilage (BRITISH MEDICAL JOURNAL, December 28th, 1918, p. 715), in which he runs atilt against the medical officers of command and regimental dépôts. Much of what he says in this connexion is doubtless true, but would be more convincing if he had had an opportunity of examining these cases before committing himself to the statement that "95 per cent. of the cases operated upon should have been placed in Class A."

I have no experience of dépôt work at home, but, like many others, am by no means convinced of the invariable success of this operation, even in the most competent hands. Previous to the war I saw the results in seven

cases operated upon by surgeons of repute, and in but three of these was the result completely satisfactory, the complaint of undue fatigue, attacks of synovitis, and in one case recurrent locking, being made in the others; the results in four other cases, who were treated by massage and exercises, compared extremely favourably.

During my work as regimental medical officer and at a base hospital in France I had further opportunities of seeing such cases after operation, and from one unit alone in six months I had to admit four cases to hospital suffering from internal derangement after operation.

While offering this criticism of the operation, I am in complete agreement with all that Mr. Hammond says about not accepting subjective symptoms in the absence of physical signs, and that not only in the case of joint troubles, but the small number of active malingerers in the Western Command (51 out of 283 in three years) speaks a great deal not only for the moral of the army but also for the efficiency of the medical supervision.—I am, etc.,

GEORGE F. R. SMITH,
Captain R.A.M.C.(T.F.R.).

Liverpool, Dec. 29th, 1918.

SIR,—In your issue of December 28th, 1918, Mr. T. E. Hammond, F.R.C.S., asserts that with proper supervision 95 per cent. of cases of excision of the internal semilunar cartilage should have been placed in Class A. He also states that cases sent to command dépôts, after a short stay, should have been discharged as fit for general service.

This is rather a sweeping statement, and we should like through your columns to express our views based on the experience gained in the after-treatment of a large number of these cases. A certain proportion showed definite chronic synovitis with effusion after exercise; this effusion invariably disappeared after a few days' rest but equally invariably returned when slight exertion was renewed. It was manifestly impossible to mark these men Class A on account of the recurrent effusion. A certain proportion were admitted with the knee-joint apparently normal, with no swelling and full movement. After a few days' graduated exercise and a route march of a mile at their own pace the joint showed a marked effusion with pain. Exercise had to be discontinued. A number with apparently normal knee-joints on arrival after graduated exercise of the most light variety developed a definite acute synovitis and had to be admitted to hospital.

It is our experience that many of the cases operated upon for excision of the internal semilunar cartilage are not improved from the army point of view, though possibly perfectly fit for civilian life.

We consider that in the light of these experiences the strictures of Mr. Hammond on command dépôt treatment are hardly justified.—We are, etc.,

FRANK RADCLIFFE,
M.O. i/c Treatment Depts.
A. W. T. WHITWORTH, Capt. R.A.M.C.,
Asst. M.O., Treatment Depts.

Command Dépôt,
Heaton Park, Manchester.

THE PAST AND FUTURE OF THE CRUSADE AGAINST TUBERCULOSIS.

SIR,—I fear Dr. Tottenham is speculating in a field of inquiry full of complexities, paradoxes, and mysteries, and an extract from a summary is dangerous ground for debate. Horace warns us against summaries:

Brevis esse laboro, obscurus fio.

Anaphylaxis is a technical term for widely different phenomena. The classical and familiar example of anaphylactic shock in a guinea pig is very different from the effects of a tuberculin reaction either in the guinea-pig or man. The symptoms, changes in tissues and organs and causation have nothing in common. The tuberculin reaction in the guinea-pig and man requires that *living* tubercle bacilli should prepare the way. As the converse of this proposition, I have stated in my book that in the great majority of cases a tuberculin reaction is evidence of the presence of living tubercle bacilli in a focus of disease, and in harmony with this idea, every year's experience brings me stronger and stronger conviction that a tuberculin reaction, properly controlled and rightly interpreted, is the best clinical test in cases of doubtful tuberculosis in any organ, especially in the early stages of the disease.

Many authorities have recorded that newborn babes do not react to tuberculin. Even when born of a mother in a late stage of tuberculosis, when tubercle bacilli circulate in her blood vessels, the infant will not react, unless a tuberculous focus has developed in intrauterine life or tubercle bacilli have passed into its blood vessels some time before birth. A *sine quâ non* for a tuberculin reaction in the babe is not a quality of blood acquired from the mother, but the presence of tubercle bacilli or a tuberculous focus; this can only be actually proved by examining a number of babes born of women in an advanced stage of tuberculosis. It would be an interesting inquiry needing years of observation at special hospitals.

The idea that the single spermatozoon of a father could convey to the ovum a substance that would prepare the way for anaphylaxis is, if not impossible, at any rate inconceivable.

Thanking Dr. Tottenham for this opportunity of explaining my views on the nature and clinical importance of a tuberculin reaction.—I am, etc.,

W. CAMAC WILKINSON, M.D., F.R.C.P.

London, W., Jan. 11.

THE EARLY TREATMENT OF WAR WOUNDS.

SIR,—I am grateful for the very kind and, may I say, sympathetic notice of my book on the above subject, which appeared in the BRITISH MEDICAL JOURNAL of January 11th. I wish to point out, however, that in two important instances the writer of the review ascribes opinions and practice to me which I have striven against constantly.

(*a*) ". . . the opinion expressed, that acidosis is the cause and not an accompanying feature of shock, will not meet with general acceptance." On page 88 of the book, one reads, "As a result of shock and of haemorrhage, the body suffers two great losses, the loss of its fluid reserves, and the loss of its alkalis." Again, on page 92, "Although the resulting acidosis is without doubt a secondary, rather than a primary phenomenon, it is advisable to combat it with the early administration of sodium bicarbonate."

(*b*) "No mention is made of any attempt to maintain the flaps in apposition over the stump of the bone by extension applied to the soft tissues where suture is not deemed advisable." (Presumably primary suture is meant.) This matter is discussed on page 245, where methods of preventing contracture of flaps, by suture or strapping over gauze packs, etc., are indicated, and these are applicable under ordinary circumstances at casualty clearing stations.—I am etc.,

H. M. W. GRAY.

London, W., Jan. 12th.

ACIDOSIS.

SIR,—I have had several letters of inquiry as to our test for acetone (December 14th, 1918, p. 655), the doses of sodium bicarbonate mixture, and any further information I can give on the subject.

I find it very difficult to get a true history of the incubation period, diet, etc., but from the well-nourished condition of most of the patients I do not think a want of carbohydrates in the diet is altogether to blame, though this may help. From the number of cases coming into the hospital, in bunches, at various intervals, somewhat like a small epidemic, I have conjectured that there might be some bacterial influence at work causing the fermentation of organic matter in the body producing autointoxication. That there is a diversity of opinions on this subject only shows the great scope for physiological research.

The test we use is, to half a test tube of fresh urine saturated with ammonium sulphide add a few drops of sodium nitroprusside, then liq. ammonia ʒss, shake, and allow to stand. The result is a port wine colour varying in intensity with the amount of acetone present. The mixture we give is sodium bicarbonate gr. x, liquid glucose ʒss, water to ʒj, every four hours for a child of 5 years, increasing the dose with age.

In answer to Dr. Stark's letter (December 21st, 1918, p. 700), my custom has always been to find out the cause of any disease, and, if possible, remove it. I know that a trace of acetone is found in many diseases, and after anaesthetics or operation, but not in anything like the quantity as found in acidosis or in diabetic coma. In this

hospital it is the custom to test the urine of every patient, and out of about 150 cases of genuine influenza pneumonia only in two were traces of acetone found. I have had over thirty recent cases, some very bad, and only one death—which is worth recording for the peculiar turn it took.

A child, aged 10½ years, admitted December 10th, 1918, was quite comatose. Pupils very much dilated; temperature 101°, pulse 96; could not be roused; trismus present; Kernig's sign absent; reflexes normal; had incontinence. Was catheterized and urine found loaded with acetone. Had to be nasal fed with milk and the sodium bicarbonate mixture. Four days after that treatment she became conscious, began to take food by mouth, and she was able to recognize her people. On December 18th she became comatose again, and had to be nasal fed. She died from cerebral haemorrhage December 20th.

If Dr. Stark will read that interesting account of the Medical Research Committee on acidosis and shock he will find we have still a great deal to learn about this insidious disease.—I am, etc.,

London, N., Dec. 26th, 1918. K. J. DOUGALL.

THE ADMINISTRATION OF ANAESTHETICS TO SOLDIERS.

SIR,—Dr. Mills appears not to grasp the fact that the method of inducing anaesthesia practised by me is one in which "the administration *is* begun with a dilute vapour gradually strengthened, and whereby anaesthesia *can* be produced without cyanosis." Being practically open it is, of course, more likely to meet these requirements than the closed method he advocates. In the few rare cases in which cyanosis arises it is the *result* of spasmodic respiratory complications and not the *cause* thereof.

The method has stood the test of nearly fifteen years in my practice, and I am convinced that, so far as safety and simplicity are concerned, it has more to recommend it than any other method of induction—a matter of great practical importance to those who are only occasionally called upon to administer anaesthetics.—I am, etc.,

London, W., Jan. 13th. G. A. H. BARTON.

GONORRHOEA AND DEMOBILIZATION.

SIR,—At the present time there is much discussion regarding the avoidance of widespread venereal disease consequent upon demobilization. It is obviously impossible to examine every man before passing him into civil life, but any approximately accurate test would be of great value. In the case of gonorrhoea, I beg to suggest that each man before demobilization should be compelled to pass an early morning sample of urine into a clean urine-glass in the presence of a M.O. The presence of threads in such an urine should be held to be highly suspicious of gonorrhoea. It is well known, of course, that gonorrhoea may be present and yet no threads occur in the urine, and also that threads may be present from causes other than gonorrhoea. Yet I think that this forms the most practical rapid examination possible, and would detect the vast majority of infected men and do injustice to very few. A more complete examination of this limited number of suspects would be manageable.

Following upon such a diagnosis it rests with the authorities to decide whether they will deal with the patient by:

1. Compulsory detention for further treatment.
2. Offer of voluntary treatment before demobilization.
3. Demobilization with advice as to his condition, and recommendation to apply for treatment at a venereal clinic.—I am, etc.,

JAS. B. MACALPINE, F.R.C.S.Eng.,
Honorary Surgeon, Salford Royal Hospital;
Surgeon in charge of Genito-Urinary Department, Salford Royal Hospital.

Manchester, Jan. 9th.

THE LABOURER AND HIS HIRE.

SIR,—Special Reserve medical officers who joined before the war are now being offered regular commissions in the R.A.M.C. I have refused the offer for the following reasons:

1. We were promised on taking commissions that in the event of mobilization we would be offered regular commissions on "advantageous" terms.

2. Compared with the temporary commissioned officers, we have suffered financially during the whole war. The difference in my own case from that of a temporary officer mobilized the same date is as follows:

Less pay and allowances	...	£100
Loss of allowances on leave and ships	...	16
Less outfit allowances (I received £20 in 1912)...		30
		146
Deduct difference in income tax		29
		£115

3. The temporary man has received a gratuity of £60 yearly—that is, £240 (+ interest about £50), and is due to receive another £60 for any part of this year—total about £350, less income tax. Our gratuity for the same period will be £270, but is not paid till demobilization, and is forfeited altogether if we take regular commissions.

Thus *if we do not take a regular commission*, we are less well off than the temporary man to the amount of £195. *If we do take a regular commission*, we lose all our gratuity, the temporary man keeps what he has received, and we are down to the tune of over £400.

4. For promotion, and retirement as captain, we stand exactly the same as the temporary man who mobilized the same date. The sole counterbalancing advantage we receive is the opportunity of retiring with pension earlier (two years in my case.)

I would like to point out that we who trained ourselves before the war (the three months' training is identical with that of regulars), who were ready and mobilized as trained men when war broke out, leaving our post-graduate studies or practices without warning or option, have a claim to be offered regular commissions *upon at least as good terms* as the temporary untrained men, who had the chance of settling their practices or finishing their examination courses.—I am, etc.,

December 19th, 1918. "SPECIAL RESERVE OF 1912."

GRATUITIES OF TERRITORIAL MEDICAL OFFICERS.

SIR,—I am glad to note, in the SUPPLEMENT to the JOURNAL of January 4th, that you have had many communications from Territorial medical officers with regard to the injustice done to us about our gratuities.

May I add my note to the general outcry? I am in a T.F. division in which the feeling on the matter is intensely bitter. Not only do many of us lose heavily financially, especially in these days of high prices, but we feel that a definite promise has been broken as the gratuity was to have been paid according to the rate of pay drawn on the last day of mobilized service. I trust that, as you say, the matter will not be allowed to drop. We feel, rightly or wrongly, that the promise was broken deliberately; if not, it is, as you suggest, at least a very curious coincidence that the order appeared just after the armistice.—I am, etc.,

January 11th. CONTEMPTIBLE T.F., M.O.

MEDICAL RESETTLEMENT.

SIR,—The question of the equitable treatment of the doctors who have had to leave their practice in order to join the forces must have furnished much food for thought to those of us who have stayed at home, but, as far as I am aware, no general action has been taken.

It is not possible, within the limits of a letter, even to touch on all the problems with which the subject is beset, but two classes of patients can be clearly distinguished: (1) Those who were on the doctor's books before the war, and (2) those who would probably have been added during the war.

With regard to the first class there need be no great difficulty; they will be handed over to their own doctor while the arrangement whereby the absent doctor receives half the fees earned during his absence seems fair and reasonable, and has been largely adopted. The second class is not so easy to deal with; an absence of three or four years, especially in neighbourhoods where the population changes rapidly, will make a great difference to a doctor's list and the absentee will find on his return that his practice is considerably smaller than it was even though his interests have been most scrupulously guarded. Loyalty and tact will achieve much, but patients may, not unnaturally, object to being transferred from a doctor they know to one whom, perhaps, they have never seen.

The Sydenham District Medical Society has considered this aspect of the question at several meetings and has recently unanimously resolved:

> That, subject to any mutual arrangement between the practitioners concerned, where a doctor (A), during the war, acquires patients who would presumably have gone to an absent colleague (B), he is at liberty to continue in attendance on payment to B of a purchase price equivalent to the fees earned during the last completed year of B's absence, with the addition of 25 per cent.

It is fully realized that the resolution of a local medical society can only be binding on its own members, but it is hoped that its publication may lead to a wider discussion, and if the scheme meets with approval to its general adoption.—I am, etc.,

H. M. Stewart,
Honorary Secretary, Sydenham District Medical Society.

Dulwich, Jan. 14th.

MEDICINE AND THE LAY PRESS.

Sir,—You have opportunely and effectively rebuked "Our Medical Correspondent" of the *Times*, on account of the harm he may have done or may do, by publishing in the lay press his somewhat undigested and perfunctory opinions on medical theories of disease; yet it seems to me one may read these views of his, however misleading, with equanimity, knowing how little they will affect medical opinion as a whole. But when "Our Medical Correspondent" deals with matters of public policy, such as the proposed Ministry of Health, or the question of handing over the medical officers of the R.A.M.C. holus bolus to the tender mercy of his new found friend the Director of Medical Services to the Ministry of Pensions, I am much more concerned as to the amount of harm which he may do.

However unreasonably, the public is apt to take the views of this anonymous member of the medical profession as representing the considered opinion of the profession as a whole upon matters which (to our discredit be it said) we have discussed little, and as to which we have as yet decided nothing.

Two thoughts arise: (1) The British Medical Association should at the earliest possible moment reconsider and redefine its policy on such vital matters as the establishment of a Ministry of Health, a State Medical Service, and the future treatment of our war-disabled men. (2) Some means should be found of rendering innocuous such pronouncements as those of "Our Medical Correspondent" in the *Times*.

As expressions of opinion, if published in a medical journal, "Our Medical Correspondent" might quite justifiably state his views, over his own signature. The medical profession would know how to appraise them, but published in a great newspaper to the public, who may regard them as authoritative, serious harm may result to the State and to the medical profession. My temporary employment in the R.A.M.C. prevents me from signing my name.—I am, etc.,

"Samoth."

January 12th.

The Services.

TEMPORARILY COMMISSIONED OFFICERS AND ACTING RANK.

In the Journal of March 16th, 1918, p. 330, the substance was given of a General Routine Order applying to the Expeditionary Forces, which laid down that an officer of the R.A.M.C. (Regular, Special Reserve, Territorial Force, or Temporary) below the rank of major, holding an appointment definitely assigned to a major in war establishments, might be granted the acting rank of major to fill a vacancy. Temporarily commissioned officers granted such acting rank would receive the pay and allowances of a major with special provision for the adjustment of their gratuity.

In reply to various inquiries, we understand that the following is a correct statement of the special provision in question:

> In the case of a temporary officer given such acting rank he will be granted the pay and allowances of major. As regards his gratuity, no further contract gratuity will be issued while the officer holds the acting rank of major. If the officer's services are terminated while the acting rank is still held, the gratuity will be calculated as laid down in Art. 497 (6) of the Pay Warrant, and that amount will be issued less the amounts already received under the contract. In the event of the officer ceasing to hold the acting rank, the contract conditions will again apply, and any gratuity that may have fallen due under these conditions will then be issued.

OFFER OF REGULAR COMMISSIONS R.A.M.C.

We believe that in 1916 medical officers serving temporarily in the army were invited to apply for permanent commissions in the R.A.M.C., and a number of those who applied were subsequently chosen for this purpose on the recommendation of their superior officers. At the close of last year commanding officers of medical units abroad were, we understand, again instructed to furnish lists, arranged in order of merit, of Special Reserve, Territorial Force, and temporarily commissioned officers R.A.M.C., who desired permanent commissions in the corps, and could be specially recommended. The terms of appointment were announced to be as follows:

1. Officers will be appointed in the permanent rank of lieutenant, but if already holding the rank of captain will be granted the temporary rank and pay of captain for the period of the war. If holding the rank of lieutenant, they will be promoted to the rank of temporary captain for the period of the war on the completion of one year's service in the usual way.
2. Commissioned mobilized service as a medical officer rendered since the beginning of the war will be permitted to reckon for substantive promotion to captain.
3. Previous service will count towards retirement on retired pay or with gratuity under the provisions of Article 540 (11) Pay Warrant.
4. Officers who have drawn a gratuity will not be required to refund it, but no further gratuity will be issuable.
5. The limit of age is 28 years, but approved candidates will be allowed to deduct from their age the period of their mobilized service if such deduction will bring them within the age limit.

Universities and Colleges.

UNIVERSITY OF LIVERPOOL.

The following candidates have been approved at the examination for the diploma in Public Health:

Shaikh Ghulam Mohamed, P. P. Wright.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A quarterly Council was held on January 9th, when Sir George Makins, president, was in the chair.

Donations to the Library.—The thanks of the Council were given to Mr. Alban Doran for presenting to the library five volumes of his literary contributions, together with five other volumes of pamphlets and articles, mainly on anatomical and gynaecological subjects.

Practical Anatomy.—The Council adopted the following resolution, proposed by Mr. H. J. Waring:

> That, in pursuance of the action taken by the Council in 1915, the president be requested to represent to His Majesty's Government that, in any legislation relating to the promotion of the public health, provision should be made for ensuring an adequate supply of material for the anatomical and surgical instruction of students and practitioners of medicine.

Obituary.

Dr. William Longbottom, who died at Sheffield on December 12th, 1918, was born at Leeds in 1858; he studied at Edinburgh in medicine in 1880 and soon after taking the diplomas of L.R.C.P. and S.Edin. settled in Sheffield. He built up a large practice there, and held appointments under the Sheffield Board of Guardians from 1888 until his death; he held also the honorary appointment of medical officer to the Girls' Orphanage of the National Union of Teachers. During the period of the war, Dr. Longbottom, though not in robust health, refused to spare himself, and continued to work at full pressure; thereby he enabled others, younger and more fit than himself, to undertake military work elsewhere. His exertions during the last four years shortened his life, and he was laid aside from work for a few months before his death. Dr. Longbottom had a striking personality. He was always ready to champion any cause that had to do with the uplifting of his profession, and his straightforwardness was the admiration of all who knew him. Naturally of a cheerful disposition he had a great influence for good, and was beloved by all who came in touch with him. Dr. Longbottom is survived by a widow and three daughters.

DR. JOHN ROBERTSON, who died at his residence in Brixton Road on January 8th after a short illness, was born in Scotland in 1849, and received his medical education at Aberdeen University. He took the diplomas of L.R.C.P. and S.Edin. in 1878, and after a period of practice in Aberdeen he removed to London, where he continued to work until his death. He was a member of the British Medical Association and of the Aberdeen Medico-Chirurgical Society. He had in recent years devoted himself entirely to *x*-ray and electro-therapeutic work. During a Zeppelin raid in September, 1916, Dr. Robertson's house was destroyed by a bomb, and he sustained injuries from which he never fully recovered.

Medical News.

MAJOR-GENERAL SIR M. P. C. HOLT, K.C.M.G., A.M.S., has been appointed a Knight of Grace in the Order of St. John of Jerusalem.

DR. G. I. AWBURN of Mottram-in-Longdendale, Cheshire, has been appointed a Commissioner of the Peace for the county of Chester.

THE United States Public Health Service has asked for appropriations amounting to £5,200,000 for the erection of hospitals providing 13,000 beds for sick and wounded discharged from the army.

THE New York Diagnostic Society, which was founded a year ago, intends to establish a hospital for diagnosis in New York. The building, to consist of six stories and a basement, will be provided with the most modern equipment for diagnostic investigations and tests. The institution is to be self-supporting. The cost of the site and building will be £50,000.

AT a special meeting of the Faculty of Insurance to be held on Tuesday, January 28th, in the Central Hall, Westminster, at 7 p.m., Mr. E. B. Turner, F.R.C.S., chairman of the Medical Committee of the National Council for Combating Venereal Disease, will deliver an address on Venereal Disease, an Urgent Health Problem. The chair will be taken by Sir Kingsley Wood, M.P., and a discussion on prophylactic treatment will be opened by Mr. P. Rockliff, president of the Faculty. Tickets may be obtained at 3 and 4, Sicilian House, Southampton Row, W.C.1.

SEVERAL courses of lectures and demonstrations, arranged by the Royal Sanitary Institute, will begin next month—the sanitary officers' course on February 17th, the course for women health visitors, tuberculosis visitors, school nurses, and school teachers on February 21st, for maternity and child welfare workers on February 24th, and for candidates preparing for the examination for inspectors of meat and other foods on February 21st. The courses are all well arranged and thoroughly practical. Further information can be obtained on application to the director and secretary, 90, Buckingham Palace Road, S.W.1.

THE Home Secretary has issued a scheme of compensation under the Workmen's Compensation (Silicosis) Act, 1918, for the refractories industries. The scheme provides for the payment of compensation in the case of the death or disablement of a workman caused by silicosis or by silicosis accompanied by tuberculosis, in all processes in the getting, handling, moving, breaking, crushing, grinding, and sieving of refractory material containing not less than 80 per cent. of silica. It applies to all mines, quarries, factories, and workshops at which any of the processes are carried on with a view to manufacture or sale, except mines or quarries in which such material is only occasionally worked. Copies of the scheme can be purchased through any bookseller.

THE Tuberculosis Society has arranged a conference of tuberculosis officers in the United Kingdom to discuss the scope of their work, the status of the personnel, the relation to existing public health service, remuneration, security of tenure, and superannuation. The conference will take place on Saturday, January 25th, at the Royal Society of Medicine, 1, Wimpole Street, London, at 7 p.m. The Tuberculosis Society submitted a memorial to the Prime Minister, the President of the Local Government Board, and to the Treasury in 1914, and it is suggested that this should form the basis of the discussion and resolutions at the meeting. The memorial recalls the recommendation of the Departmental Committee on Tuberculosis, 1913, that tuberculosis officers should be specialists in the work, and states that the recommendations of the Committee were generally endorsed by the Local Government Boards. The memorial represented that it was important that from the outset tuberculosis officers should be ensured satisfactory status and security of tenure. Dr. Dundas Grant will give an address on tuberculosis in relation to the upper air and food passages at a meeting of the Tuberculosis Society on Monday, January 27th, at 8.30 p.m., at 1, Wimpole Street.

THE Director of the Natural History Museum has added to the list of economic leaflets and posters a poster on "the louse danger," illustrated by a drawing of the clothes louse. The infection of relapsing fever, typhus and trench fever are enumerated as those proved to be conveyed by the louse, and directions are given for avoiding infestation. It is pointed out that regular washing of underclothing and bed linen, weekly if possible, will prevent lice from thriving, even should casual infestation occur. Hospital workers and others brought into frequent contact with verminous persons are advised to wear white linen overalls and to use undergarments impregnated with an efficient insecticide, but the substance to be preferred is not stated. The value of dry heat in the disinfestation of clothing or bedding is indicated, and it is stated that a temperature of 131° F. maintained for twenty minutes is fatal both to lice and nits, but the clothing must not be bundled. It is added that ironing with a hot iron, paying particular attention to the seams, is also effective. The insecticides recommended are light oils such as kerosene or petrol, which will be more effective against the nits if a small percentage of some essential oil such as sassafras be added. For immersion of garments a solution of lysol or cresol soap (soft soap 1½ lb., water 10 gallons, Jeyes' fluid 1½ oz.) is advised. Immersion for five minutes in a 2 per cent. solution is adequate for temperatures above 41° F. As to naphthalene, it is stated that the crude material retains its efficiency longer than the flaked product, and that evaporation is retarded if the naphthalene be mixed with soft soap and used as an ointment. Copies of the poster can be obtained from the Director of the Museum (South Kensington, S.W.7), price ½d., or free by post 1d.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

QUERIES AND ANSWERS.

INCOME TAX.

Allowable Deductions.

H. E. G. inquires as to whether "general" expenses are allowable for tax purposes in computing the assessable income.

*** The answer is in the affirmative, provided that such expenses are reasonably attributable to the conduct of the practice, and do not represent an outlay of further capital. For instance, expenditure on drugs would be allowable if incurred for clients' prescriptions, but not if for special research work; on light and heat to the extent to which it referred to the professional and not to the domestic rooms, and so on. As to motor expenditure, see answer to "W. J. F." below; running cost is of course allowable.

W. J. F. inquires as to the basis of the allowance for the cost of renewing his car, having regard to present enhanced prices.

*** The question is one of distinguishing between "capital" and "revenue" expenditure. The first vehicle purchased

represents capital expenditure purely; a subsequent expenditure on renewal would be "revenue" expenditure, except to the extent to which it increased the total capital outlay. Thus, taking our correspondent's figures, the allowance should be:

Total capital outlay: First car	£135	
Second car	£250	
	£385	
Deduct amount received on sale of first car	£110	
		£275
Value of second car at time of purchase		£250
Difference, being amount attributable to revenue expenditure		£25

There is a latent hardship in this case, arising from the fact that the value of the £250 car may fall, but that is inseparable from the fact that depreciation is not allowed in assessing professional profits. If the value does not fall there is no hardship; in any case the £25 is correct as the amount of "renewal" expenditure.

Army Pay.

H. W. F. asks for information as to the expenses he is entitled to deduct from his army pay.

*** The expenses referred to, for example, accommodation for wife and children, excess on kit allowance and travelling, are, according to the judicial interpretation of the Acts, incurred not so much "in the performance of his duties" as in order to put our correspondent in a position to begin that performance, and are not allowable. We presume that he has had the appropriate annual allowance of £25 or £30 from the assessment for the upkeep of his kit.

LETTERS, NOTES, ETC.

MINISTRY OF PUBLIC HEALTH.

DR. J. BRINDLEY JAMES, President of the Association of Members of the Royal College of Surgeons of England (London, S.W.13), writes: Several members of our profession are claiming to be the first to suggest the appointment of a Minister of Public Health. Now you will find on referring to your JOURNAL of August, 1889, that I read a paper on that subject at Leeds. Since that time several writers have taken up the subject, and I am pleased our Government is now alive to the necessity of such a Minister to look after the welfare of the community at large. I may say *en passant* that one of my reasons for advocating a Minister of Public Health was to have our profession more recognized by the State. Since I read my paper at Leeds we all have witnessed the advances made in surgery, hygiene, and medicine, and how those advances have combated and alleviated the sufferings of the public, but more especially those men who have been fighting in this great war and whose lives have been saved by this triune. Of all the learned professions, medicine stands first for learning and scientific research, and I can say without contradiction has been the least recognized by the State.

VENEREAL DISEASE AND PROFESSIONAL SECRECY.

DR. L. BOUSFIELD (Khartoum) writes to draw attention to the statement by Mr. E. B. Turner at the annual meeting of the National Council for Combating Venereal Disease that "if a doctor, knowing that a patient suffering from venereal disease was about to be married, spoke of it to the other contracting party or to his or her parents or guardians, he laid himself open to an action for libel, and, what was even a greater deterrent, he violated the confidence of the consulting room. It was no use to alter the law of libel in this matter, as had been suggested, so long as the professional ethics in the case remained as they were. No doctor would violate confidence unless it was laid upon him as a statutory obligation to do so." (BRITISH MEDICAL JOURNAL, June 22nd, 1918, p. 700). Dr. Bousfield argues that if an action for libel in such a case can be maintained, the quicker the law is changed the better; and that if professional ethics require a doctor to keep silent in such cases, no words are strong enough to condemn professional ethics in this respect. In most matters, he agrees, the confidence of the consulting room must be most rigidly maintained and guarded; but the man or woman who, after due warning by a medical man, persists in marrying while actively infected, must be devoid of all decent feeling—in fact, criminal—and therefore should not be protected by the law or by our profession.

VENTILATION AND DIET IN INFLUENZA.

DR. JOHN HADDON (Hawick) writes: In the BRITISH MEDICAL JOURNAL of November 16th, 1918, p. 562, Dr. Atkinson says he had no cases of pneumonia, "perhaps because as soon as I got into the bedrooms I opened the windows wide and insisted on their being kept so." The memorandum on influenza by the Royal College of Physicians in the same issue of the BRITISH MEDICAL JOURNAL, p. 546, while advocating good ventilation, says, "draughts are due to unskilful ventilation and are harmful." There is sure to be a draught in a bedroom with both window and door open, and mine are never closed. Miss Florence Nightingale, in her lectures to her nurses, says they should feel the air on their cheeks in the hospital ward, and I think she was right. It is not the draught that does harm but the polluted atmosphere, which stops elimination by the skin and lungs and poisons the system. The Anglo-Saxons would not meet under a roof, declaring that there were evil spirits there, and it would be well if in the houses that are to be built provision would be made to have a draught through every room.

Dr. Atkinson further says that he advised his patients to remain in bed, to eat nothing, and to drink plenty of water. The late Dr. George Keith, after long experience, insisted on cases of influenza fasting from all food; this, he said, prevented secondary symptoms. I read in some old book of one member of our House of Commons complaining to another that he could not stand the atmosphere of the House, and the other said, "I can stand it well enough if I don't eat too much," and in that observation there is great wisdom. The more we eat the more we have to eliminate, the less we eat the less; and seeing that the skin and lungs alone eliminate the waste products of the tissues, one can understand how important it is that the function of organs of such importance to health should not be overtaxed. The only way one can account for such a world-wide epidemic as this of influenza is on the theory that the primary cause is in the atmospheric conditions, of which we know so little. That such conditions alter our power of elimination by the skin and lungs I am quite sure from my own personal experience. Our first hard frost raised my weight half a stone, due to retention of fluid in the system, very evident in the skin, which alters one's features entirely. To prevent influenza, then, we must eat less, and avoid a stagnant atmosphere.

THE EXAMINATION FOR THE M.D. BRUSSELS.

DR. ARTHUR HAYDON, Honorary Secretary, Brussels Medical Graduates' Association (St. Aubyns, Swanmore, Ryde, Isle of Wight), writes: I have received a communication from the Secretary of the University of Brussels to the effect that the university will reopen in February, and that the first examination for the M.D. will take place in March or May. It will be on the same lines as formerly. I shall be pleased to send full particulars to any candidates who may wish to enter for the examination.

THE EXTINCTION OF FIRES.

THE British Fire Prevention Committee (8, Waterloo Place, S.W.1) has issued a small red book on *How to Deal with Different Kinds of Fires* (3s. 6d., post free 3s. 8d.), by Mr. Sidney G. Gamble, formerly of the London Fire Brigade, and the author of a *Manual for the Use of Fire Brigades*. The first part of the book gives general information as to fires and the effect of water, steam, and chemicals applied from different forms of fire appliances. The second part deals alphabetically with a number of materials and various kinds of fires, including those due to chemicals and explosives.

BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

Subscriptions to the Second Appeal.

The following subscriptions have been received up to Monday, January 13th:

	£ s. d.		£ s. d.
Mr. E. Spencer Evans (monthly)	0 10 0	Mr. J. F. Cownie	1 1 0
American Red Cross Commission for Belgium (monthly) ...	200 0 0	Dr. C. Buttar	3 3 0
		Dr. Vincent S. Hodson ...	1 1 0
		Dr. E. S. Green	1 1 0

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

THE following appointments of certifying factory surgeons are vacant: Alford (Aberdeen), Heckington (Lincoln), Ilminster (Somerset).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 6 0
Each additional line	0 0 9
Whole single column	4 0 0
Whole page	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.